



Colour Television Service Manual

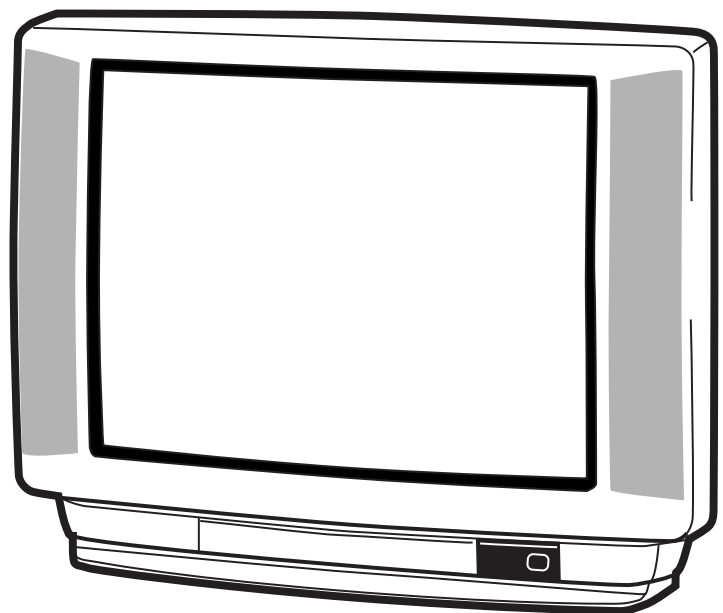
CE28B5-c

Model CE28B5-C

Service Ref. No. CE28B5-C-00

PRODUCT CODE: 111354504

ORIGINAL VERSION: Chassis No. EB6-B



Give complete "SERVICE REF. NO." for parts order or servicing, it is shown on the rating sheet on the cabinet back of the TV set.

Note

This TV receiver will not work properly in foreign countries where the television transmission system and power source differ from the design specifications. Refer to the specifications for the design specifications

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SAFETY PRECAUTION

- | | |
|--|---|
| 1: An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set. | 3: When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, isolation resistor-capacitor networks etc. Before returning any television to the customer, the service technician must be sure that it is completely safe to operate without danger of electrical shock. |
| 2: Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube. | |

X-RADIATION PRECAUTION

The primary source of X-RADIATION in the television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limit. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for +B1 volt power supply adjustment, and high voltage adjustment to maintain the high voltage within the specified limits.

PRODUCT SAFETY NOTICE

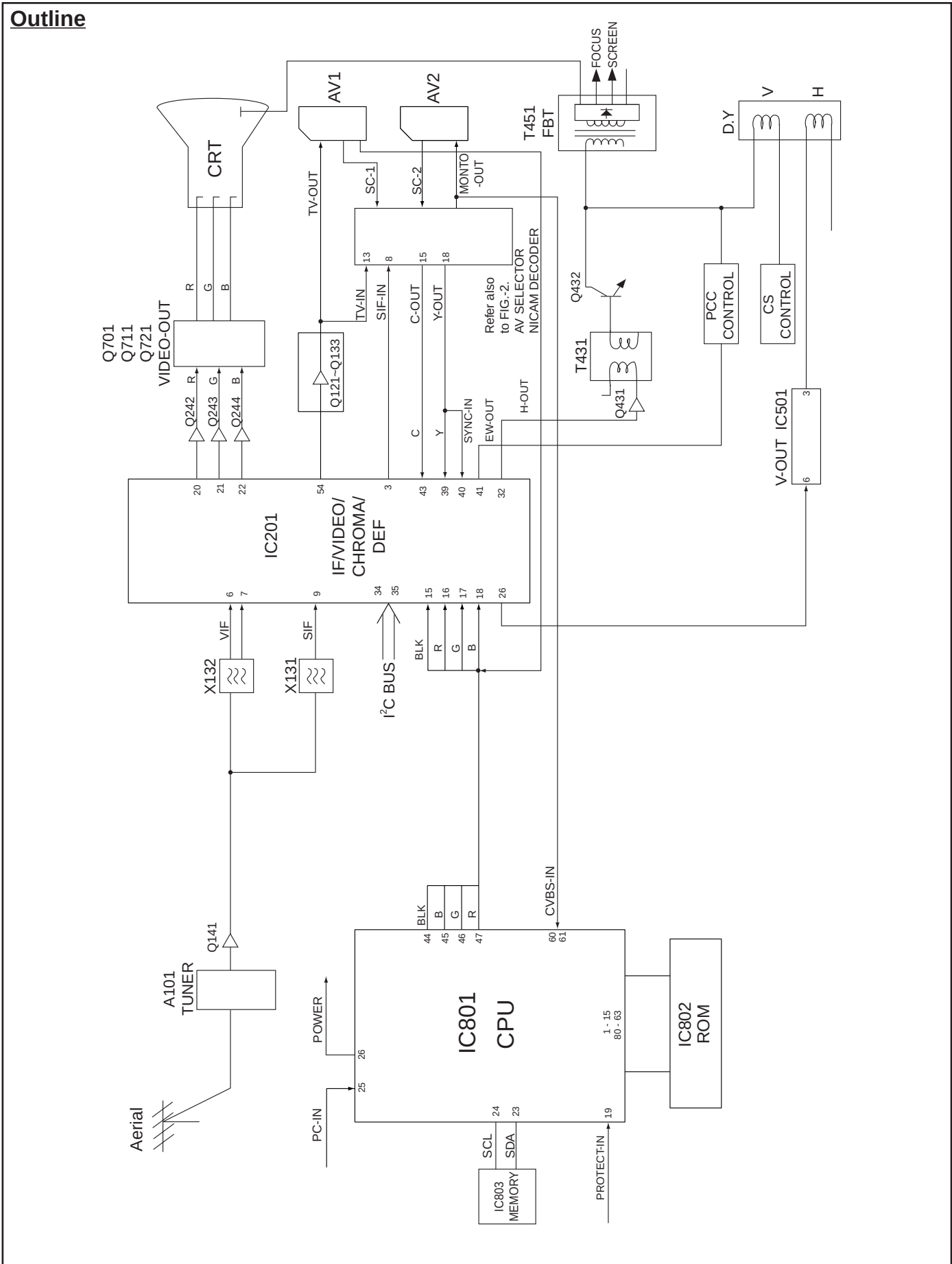
Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark $\triangle$ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark $\triangle$. No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark $\triangle$.

SPECIFICATIONS

Power source	AC 220~240V, 50Hz
Television system	System B/G
Colour system	PAL/NTSC4.43 (PAL/NTSC4.43/MTSC3.58 IN AV MODE)
Receiving channel	UHF: #21~69 VHF: E2-E12
Aerial input impedance	75ohm
AV terminal	
21 Pin SCART Terminal	AV1:CENELEC standard with RGB AV2:CENELEC standard with S-inputs AV3:RCA Terminal, Video and Audio (L/R)
Front AV	
Sound output(Music)	12W x 2
Dimensions (WxHxD)	736 x 597 x 494mm
Weight	32 Kg

BLOCK DIAGRAM

This is a diagram for all models and therefore differs slightly from the actual block diagram.



AV Selector NICAM DECODER

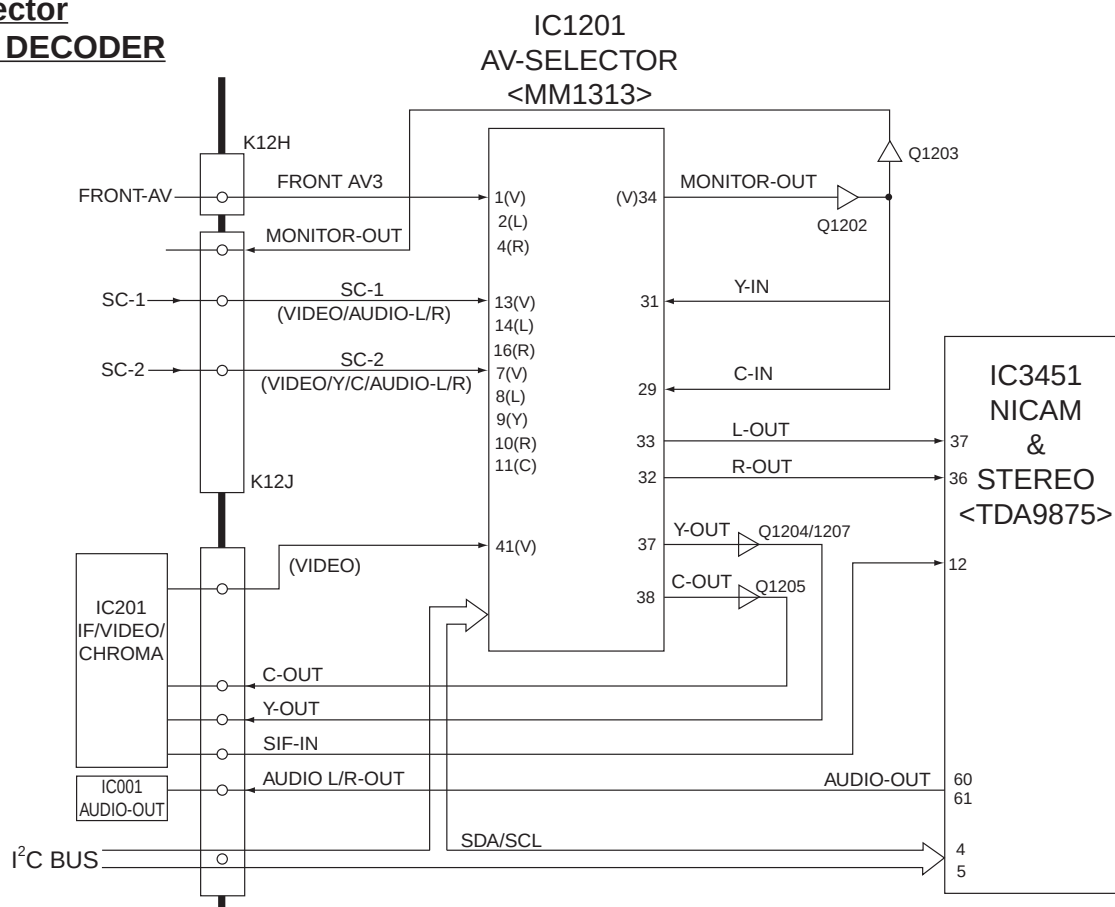


Fig.-2

System Control

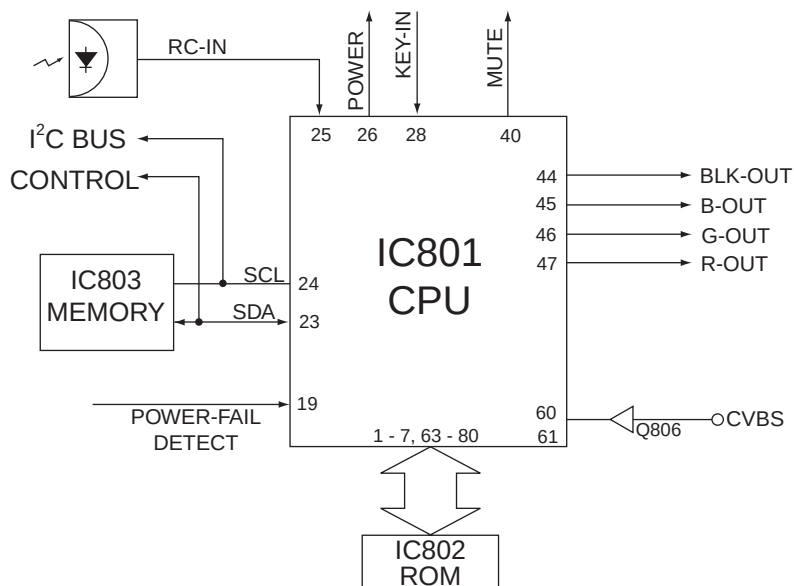
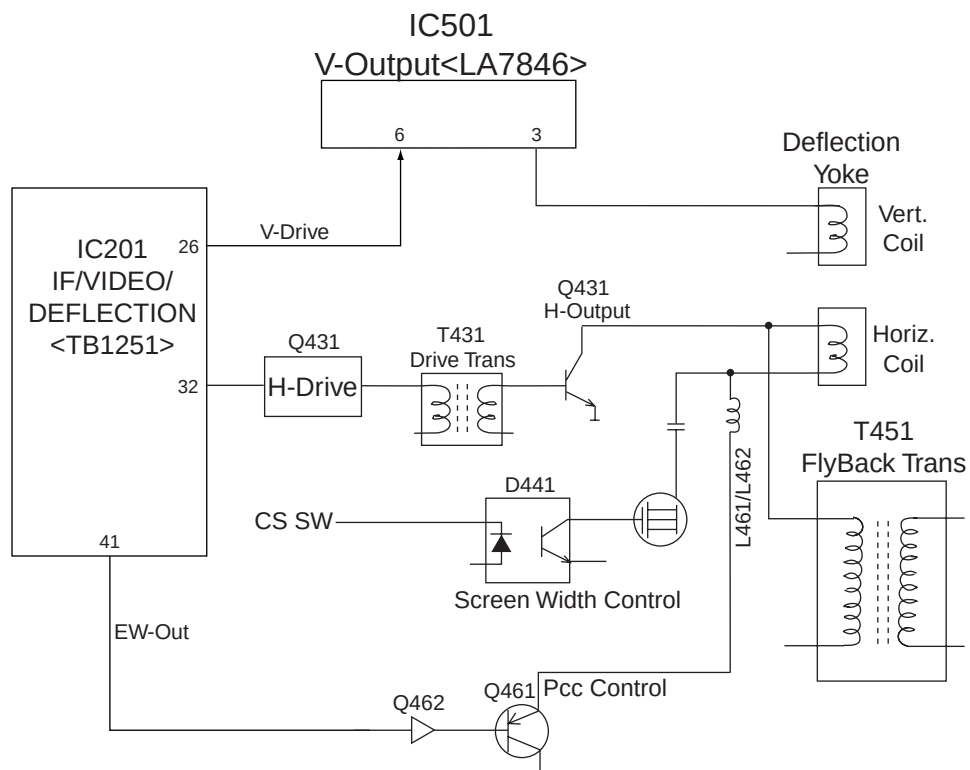


Fig.-3

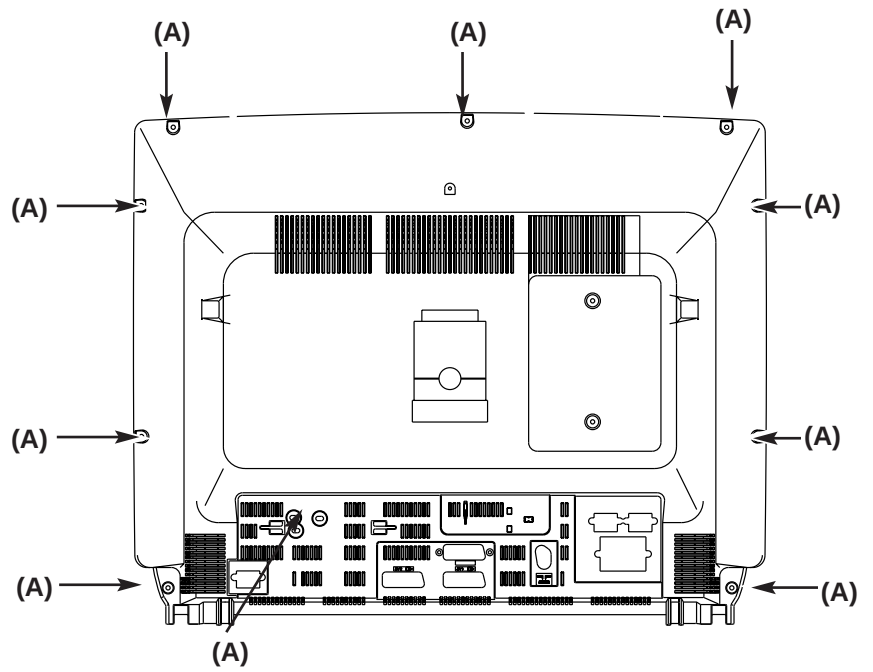
Deflection Control



CABINET DISASSEMBLY

CABINET BACK DISASSEMBLY

1. Remove 10 screws(A).
2. Pull out the cabinet back.



OPTION SETTING

[After replacing the Memory IC (IC803)]

The memory IC, IC803, stores the option data of TV set and service adjustments data for each circuit, therefore, when the memory IC is replaced, it should be performed following setting and "SERVICE ADJUSTMENT" on next page.

To enter to the Option Mode

- + Press and hold the **F/OK** button on the remote control and **P▼** button on the front panel of the TV. The option window will appear on the screen. Set the options as shown below.

OPTION	
ON-TIMER	ON
SORT MODE	AUTO TUNE/SORT
PLUG & PLAY	ON
WELCOME TEXT	ON
CODE TEST	OFF
WSS	ON
WIDE	OFF
OPTION	UK
312/313 Mode	OFF
AV3 OPTION	ON
3D SURROUND	ON
↕↔ ADJUST : ⏪⏩ EXIT : RECALL	

To set the option mode

- + Highlight the desired option item by using the **P▲** or **P▼** button .
- + To switch the option mode, use the **Volume - (LEFT)** or **Volume + (RIGHT)** button.
- + The data which is set in the option mode is stored into the memory IC automatically.

Following table shows the available option items and default setting mode.

<u>Option Mode</u>	<u>Mode</u>	<u>Description & Note</u>
ON-TIMER	ON or OFF	On-timer available, default "ON"
SORT MODE	AUTO TUNE/SORT or AUTO TUNE or ATS EURO PLUS	Tuning mode, default "AUTO TUNE/SORT"
PLUG & PLAY	ON or OFF	Plug & Play mode, default "ON"
WELCOME TEXT	ON or OFF	Display message when first set up, default "ON"
CODE TEST	OFF or ON	For factory use, default "OFF"
WSS	ON or OFF	Wide Screen Signaling available, default "ON"
WIDE	ON or OFF	Wide mode, default "ON"
OPTION	UK or IRELAND	Destination option , default "UK"
312/313 Mode	ON or OFF	Teletext mode, default OFF
AV3 OPTION	ON or OFF	Front AV disable, default ON
3D SURROUND	ON or OFF	3D Surround available, default ON

Exit from the Service Mode

- + Press the **RECALL** button.

SERVICE ADJUSTMENTS

Note: Some items of the service adjustments for this chassis are controlled by the CPU, IC801, and the adjustments are carried out by using the RC handset.

[After replacing the Memory IC (IC803)]

The memory IC, IC803, stores the service adjustments data for each circuit, therefore, when the memory IC is replaced, it should be performed "OPTION SETTING" on previous page and the following adjustments, refer to further adjustment on page 14.

ADJUSTABLE SERVICE ADJUSTMENT REGULAR

<u>Item No.</u>	<u>OSD</u>	<u>Description</u>
1	AGC	AGC Adjustment
2	CUT	Cut-Off Drive Adjustment
3	GRY	G-Drive Adjustment
4	GRY	B-Drive Adjustment
7	HBP	H-Blanking Phase Adjustment
8	OSD	OSD Positioning Adjustment

WIDE

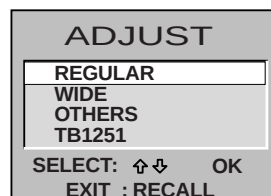
<u>Item No.</u>	<u>OSD</u>	<u>Description</u>
1	P V-P	Vertical Centre Adjustment
2	P H-P	Horizontal Centre Adjustment
5	P V-S	Vertical Size Adjustment
6	P H-S	Horizontal Size Adjustment
7	P PCC	Pcc Adjustment
8	P TRP	Trapezoid Distortion Adjustment
10	P CNR	Corner Adjustment

IMPORTANT NOTICE

Do not attempt to adjust service adjustments not listed on the above otherwise it may cause loss of performance and product safety.

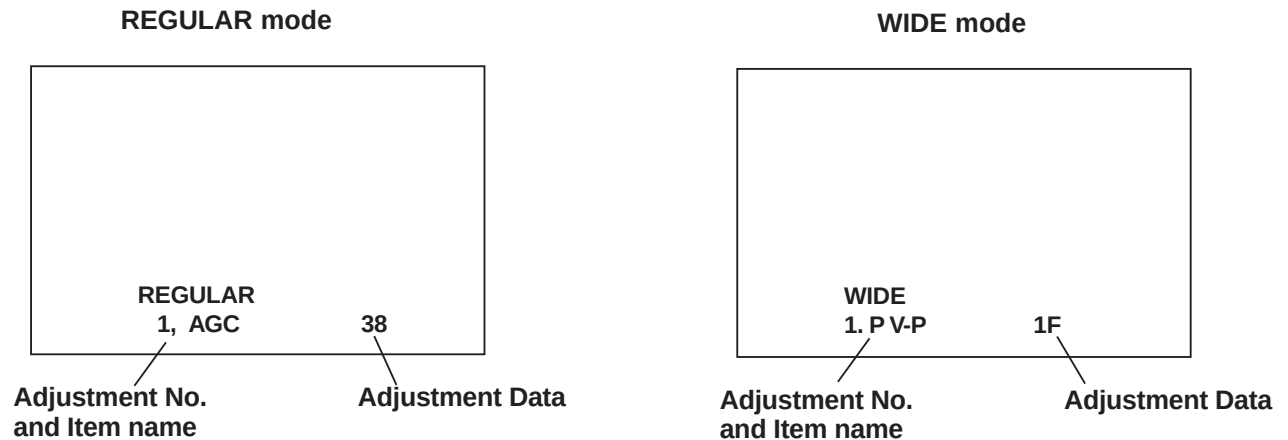
To enter to the Service Mode

+ Press and hold the **GREEN** button on the remote control and then press the **P▼** button inside of the door. The adjustment window will appear on the screen.



To select the mode and service item and change data value

- + Highlight the desired adjustment mode by using the **P▲** or **P▼** button and then press the **F/OK** button.
- + To select the adjustment item, use the **P▲** or **P▼** button.
- + To change the service data, use the **Volume -(LEFT)** or **Volume + (RIGHT)** button.
- + The data which is set in the service mode is stored into the memory IC automatically.



Exit from the Service Mode

- + Press the **RECALL** button or turn off the TV set by using the Mains switch.

INITIALISATION OF MEMORY IC

To initialise the memory IC (IC803), press and hold the **NORMAL** button on the remote control and then press the **P▲** button on the front panel of the TV set, and then turn the Mains switch Off and On. Now the initialisation is completed.

When initialised the memory IC, all of the setting data (option data and service adjustment data) stored in the IC are reset to the default value. So it is necessary to set the option settings and readjust the service adjustments listed on left page.

ADJUSTMENTS

IMPORTANT NOTICE

Do not attempt to adjust the following service adjustments except when adjustments are required in servicing otherwise it may cause loss of performance and product safety.

+ B VOLTAGE ADJUSTMENT

1. Receive white raster pattern.
2. Set controls to normal.
3. Connect digital voltmeter to test point TP-B and GND.
4. Adjust voltage to $150 \pm 0.5V$ by using VR641.

AGC ADJUSTMENT

1. Input and tune an RF signal which is UHF to the clearest station.
2. Connect digital voltmeter to test point TP-A and GND.
4. Enter to the service mode and select mode "REGULAR", and select item no.1 "REGULAR 1, AGC".
5. Press the **LEVEL+** or **LEVEL -** button to adjust voltage to be 3.2Vdc.

FOCUS ADJUSTMENT

By using FOCUS VR, adjust focus control for well defined scanning lines.

GREY SCALE ADJUSTMENT

SCREEN ADJUSTMENT

1. Receive black & white pattern.
2. Enter to the service mode and select mode "REGULAR", and select item no. 2 "REGULAR 2, CUT". The horizontal line will appear on the screen.
3. Set the SCREEN VR for one colour to be just visible.
4. Using the numeric buttons shown set each colour to minimum by decreasing to the point where any further decrease resets the adjustment to maximum value.

BIAS ADJUSTMENT

5. By using the buttons 1, 2, 4, 5, 7, 8 on the remote control, adjust the line to be white.

The key allocation is as follows;

Button No. Operation

- | | |
|---|----------------|
| 1 | Increase Red |
| 2 | Decrease Red |
| 4 | Increase Green |
| 5 | Decrease Green |
| 7 | Increase Blue |
| 8 | Decrease Blue |

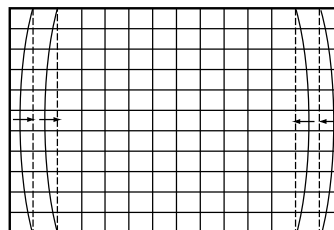
DRIVE ADJUSTMENT

6. Select item no.3 "REGULAR 3, GRY" (G-Drive) or 4 "REGULAR 4, GRY" (B-Drive) and adjust both initially to 3F.
7. Change data value of each item by using **LEVEL +** or **LEVEL -** button to obtain the proper white balance.

PCC ADJUSTMENT

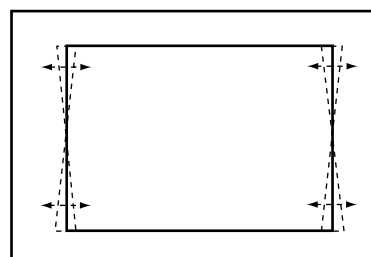
PCC ADJUSTMENT

1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 7 "WIDE 7.P PCC".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the vertical line to be straight.



TRAPEZOID ADJUSTMENT

1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 8 "WIDE 8.P TRP".
3. Press the **LEVEL+** or **LEVEL -** button to correct the trapezoid distortion of the vertical line.



CORNER ADJUSTMENT

1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 10 "WIDE 10.P CNR".
3. Press the **LEVEL+** or **LEVEL -** button to correct the distortion of the vertical line around the corners.

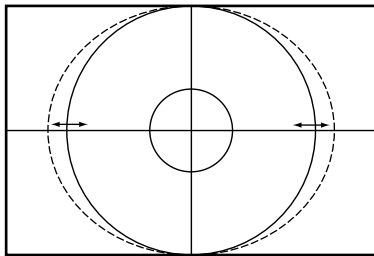
HORIZONTAL ADJUSTMENT

HORIZONTAL CENTRING ADJUSTMENT

1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 2 "WIDE 2.P H-P".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the horizontal centre.

HORIZONTAL WIDTH ADJUSTMENT

1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item 6 "WIDE 6.P H-W".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the horizontal width.



HIGH-VOLTAGE CONFIRMATION

1. Receive circular pattern and set screen mode to "FULL".
2. Set controls to normal.
3. Connect high-voltage meter to the anode of CRT and GND.
4. Confirm that voltage is $29.0 \pm 1.0 \text{ kV}$ at 1.4 mA for 28" model.

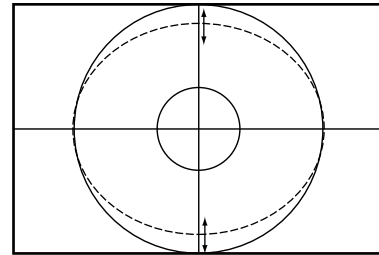
VERTICAL ADJUSTMENT

VERTICAL CENTRING ADJUSTMENT

1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 1 "WIDE 1.P V-P".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the vertical centre.

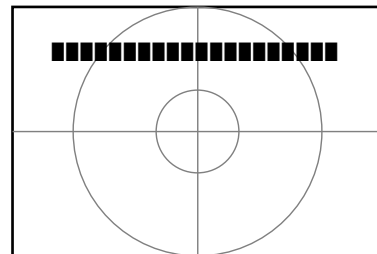
VERTICAL HEIGHT ADJUSTMENT

1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 5 "WIDE 5.P V-S".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the vertical height.



OSD POSITIONING ADJUSTMENT

1. Receive circular pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "REGULAR", and select item no. 8 "REGULAR 8 OSD". The OSD test bar will appear on the top of screen.
3. Press the **LEVEL+** or **LEVEL -** button to adjust proper OSD positioning.

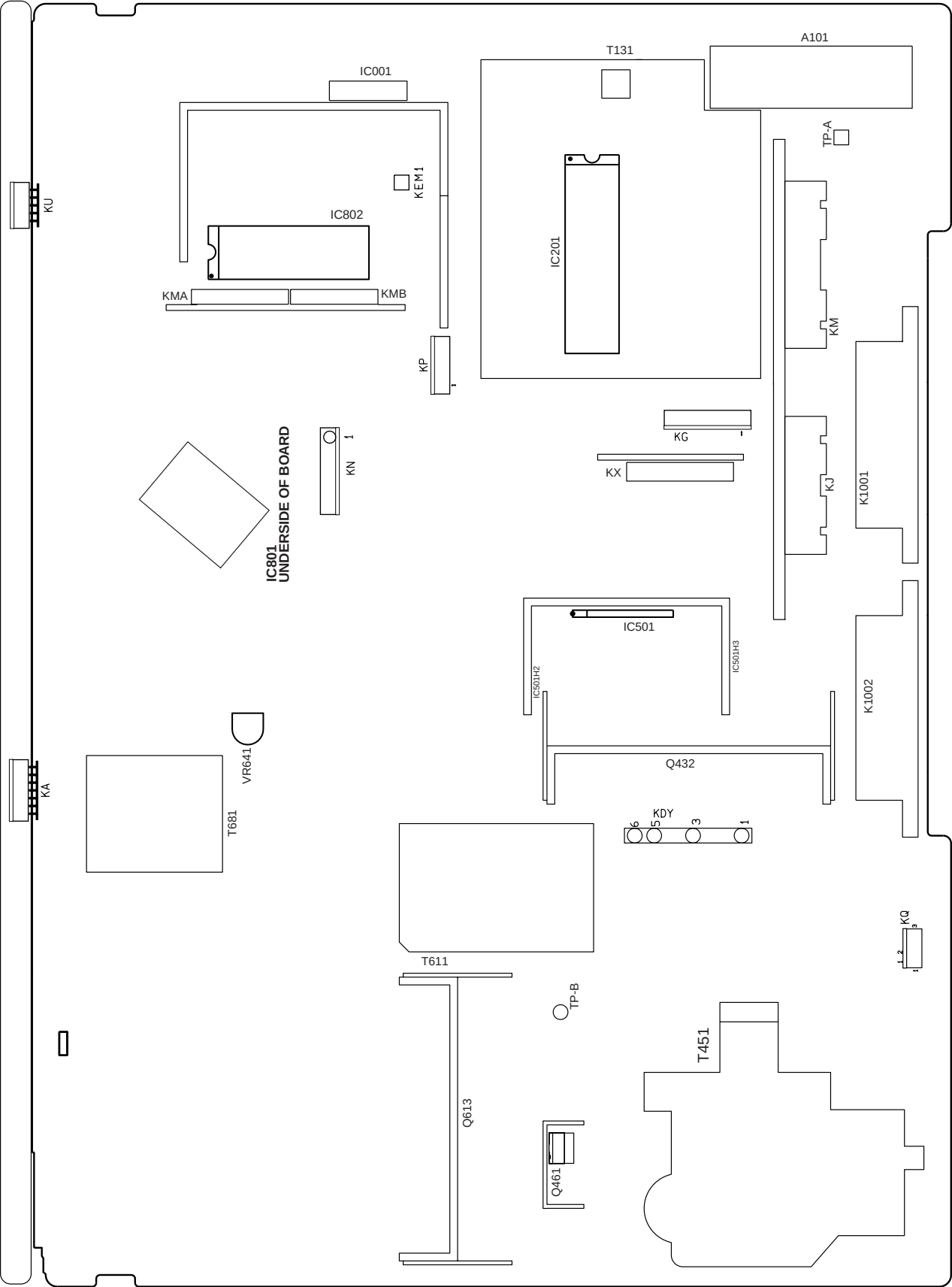


CPU PORT FUNCTIONS

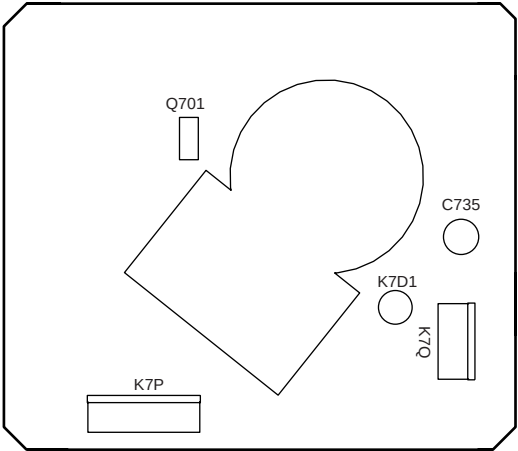
Pin No.	Function Name	Function	IN/OUT
1	MMU0	External memory 0	OUT
2	MMU3	External memory 3	OUT
3	ADDR10	Address bus 10	OUT
4	DSN	Data Strobe	
5	ADDR11	Address bus 11	OUT
6	ADDR9	Address bus 9	OUT
7	ADDR8	Address bus 8	OUT
8	RWN	Read Write Strobe	
9	GND		
10	VDD	Power Supply	IN
11	OSC-IN	Clock Input	IN
12	OSC-OUT	Clock Output	OUT
13	ADDR13	Address bus 13	OUT
14	ADDR14	Address bus 14	OUT
15	MMU1	External memory 1	OUT
16	MMU2	External memory 2	OUT
17	MMU4	External memory 4	OUT
18	MMU5	External memory 5	OUT
19	P3.7/CSO	Protect - Power failure detect input	IN
20	P3.6/ASN	Dolby CLK(L/L')	OUT
21	P3.5	Dolby SO(Super 3D)	OUT
22	P3.4	PITTARI switch	OUT
23	P5.1	IIC BUS SDA	IN/OUT
24	P5.0	IIC BUS SCL	OUT
25	P2.0	Remote Control Signal Input	IN
26	P2.3	Power Relay & LED Drive On: L	OUT
27	P2.4	SUB CPU SO	OUT
28	P0.2	Key switch input	IN
29	P0.1	SUB CPU CLK	OUT
30	P0.0	SUB CPU SI	IN
31	P4.7	THRESHOLD switch	OUT
32	P4.6	JIMAKU(Caption) switch	OUT
33	P4.5	On-Timer LED Drive ON: L	OUT
34	VDD		IN
35	GND		
36	P2.1	AV1 Scart function input	IN
37	P2.2	AV2 Scart function input	IN
38	P2.5	RF AGC input	IN
39	P4.4	H-Blank On/Off	OUT
40	P4.3	AMP Mute Mute On: H	OUT
41	P4.2	Dolby RQ	OUT
42	P4.1	H-Blank Phase	OUT
43	P4.0	50/60Hz output 50Hz: H	OUT
44	FB	BLK Output for OSD (Active H)	OUT
45	B	Blue Output for OSD (Active H)	OUT
46	G	Green Output for OSD (Active H)	OUT
47	R	Red Output for OSD (Active H)	OUT
48	V-SYNC	V-Sync Input (Active H)	IN
49	H-SYNC	H-Sync Input (Active H)	IN
50	WSCR	VPS/WSS Slicer Line PLL	

COMPONENT LOCATIONS

MAIN BOARD

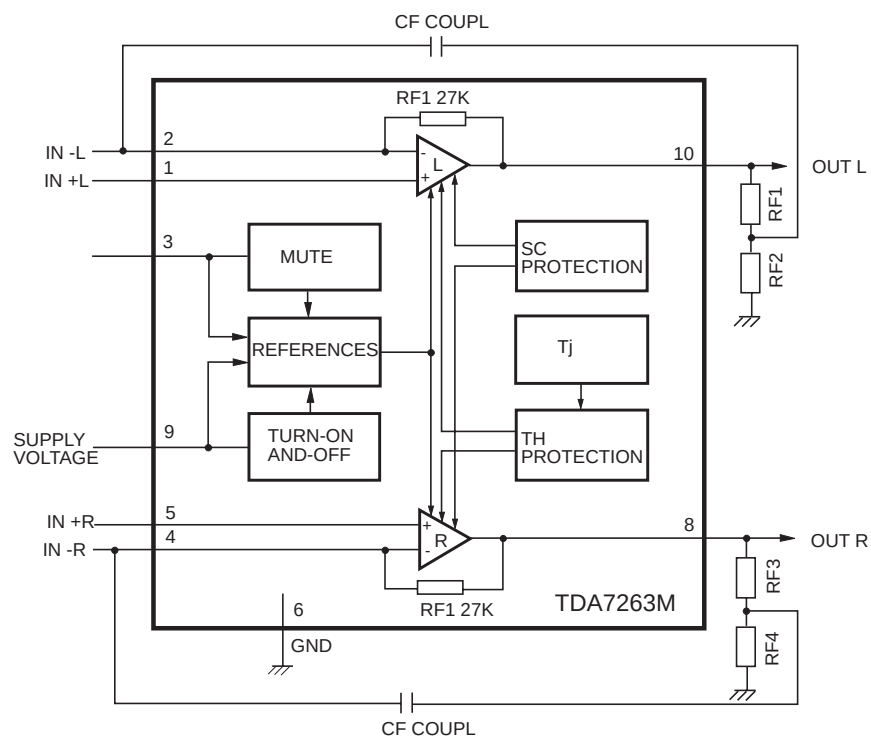


CRT BOARD

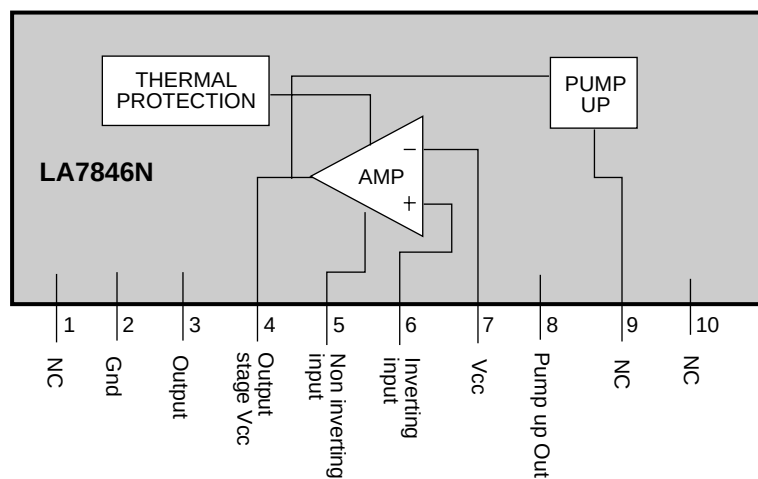


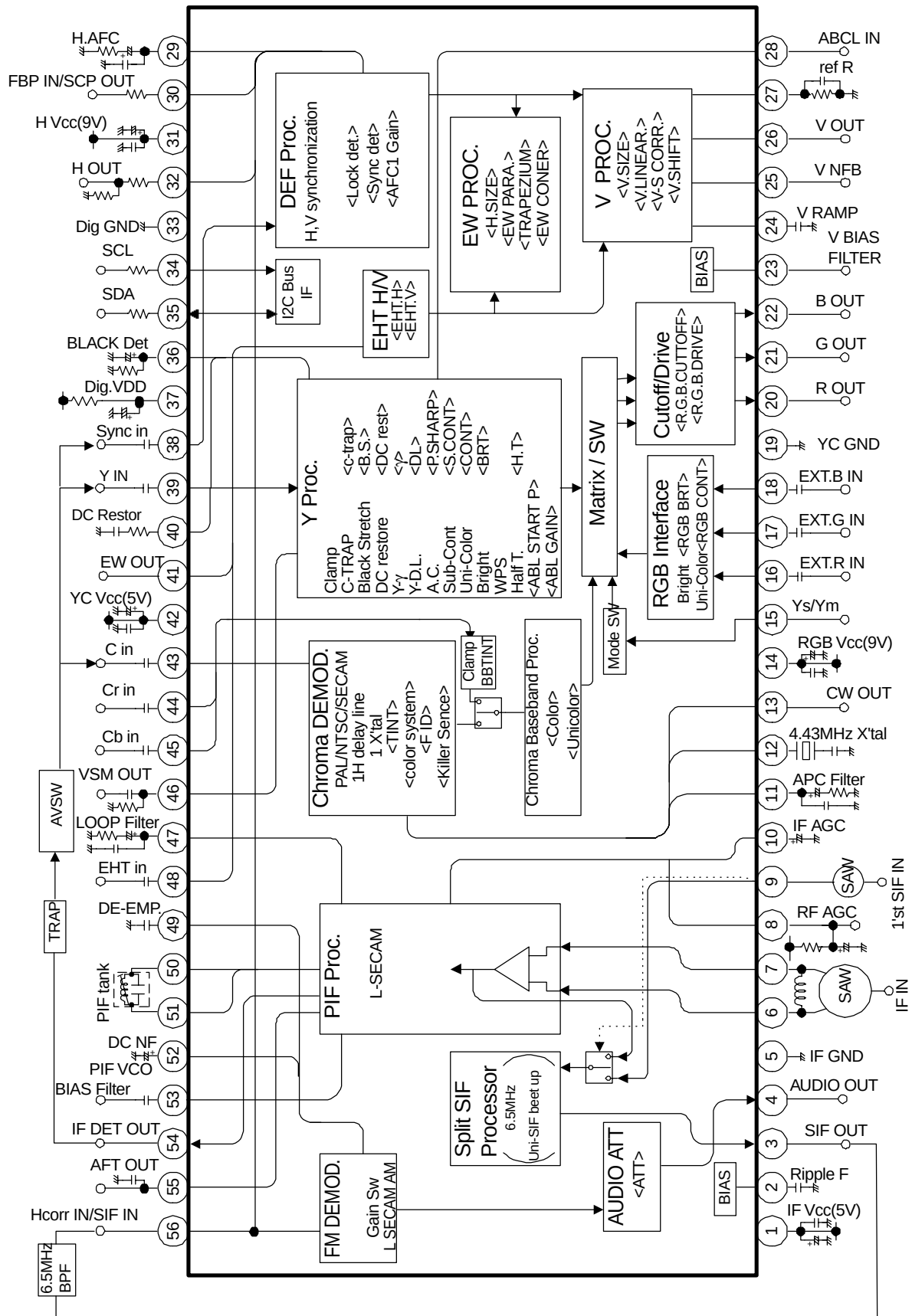
IC BLOCK DIAGRAMS

IC001 TDA7263M <Audio Output>

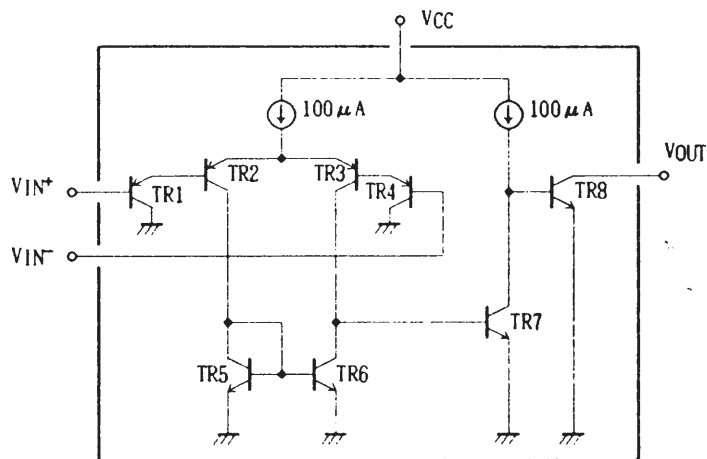


IC501 LA7846N <Vertical Output>

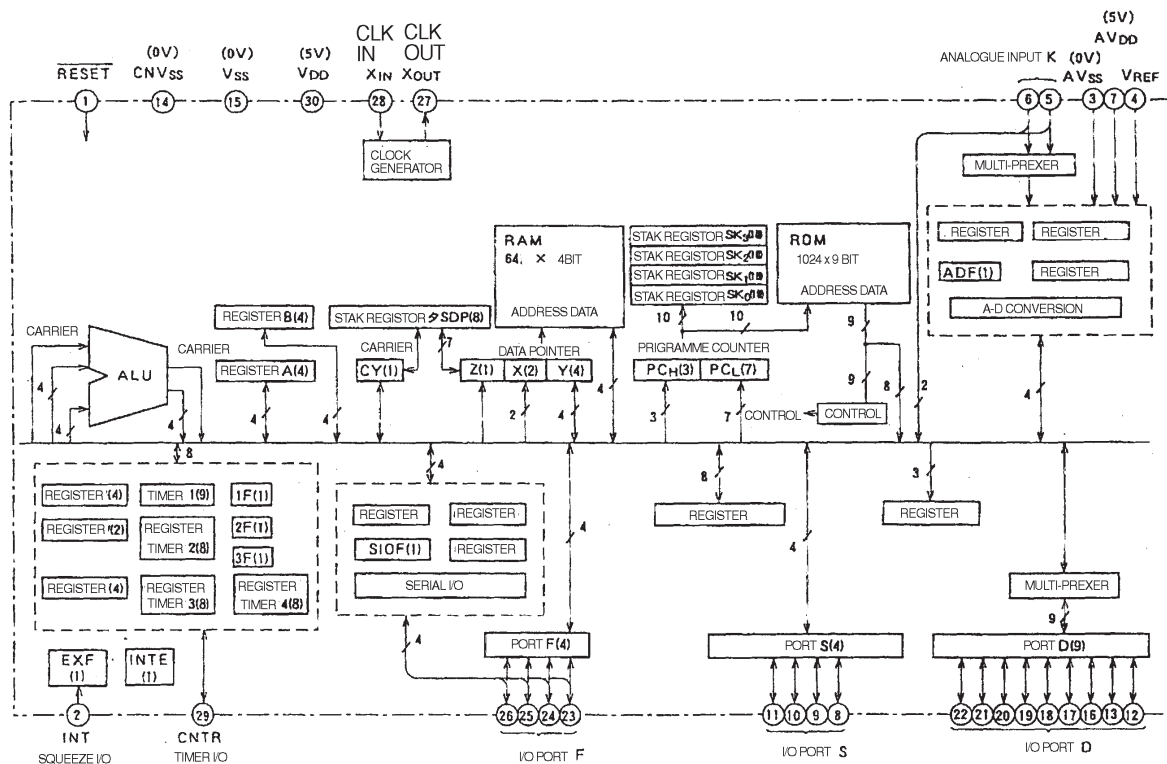




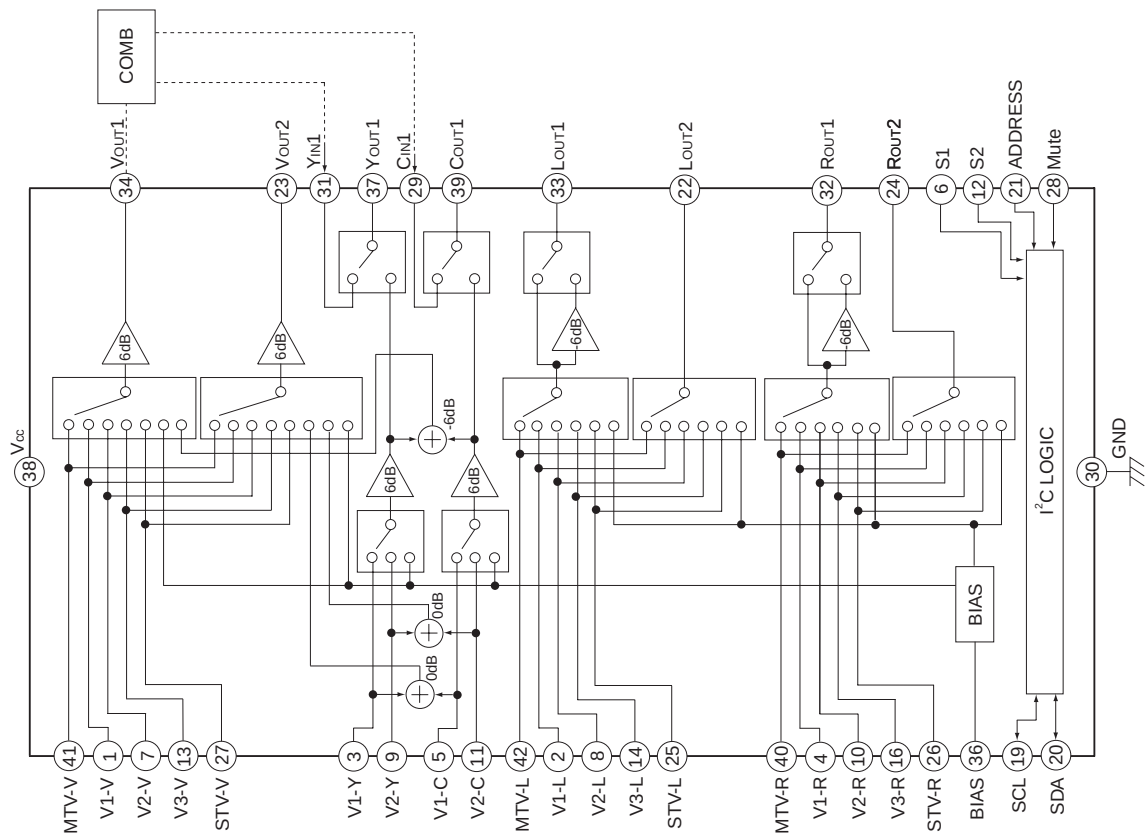
IC1301 LA6393D <Operation Amplifier>



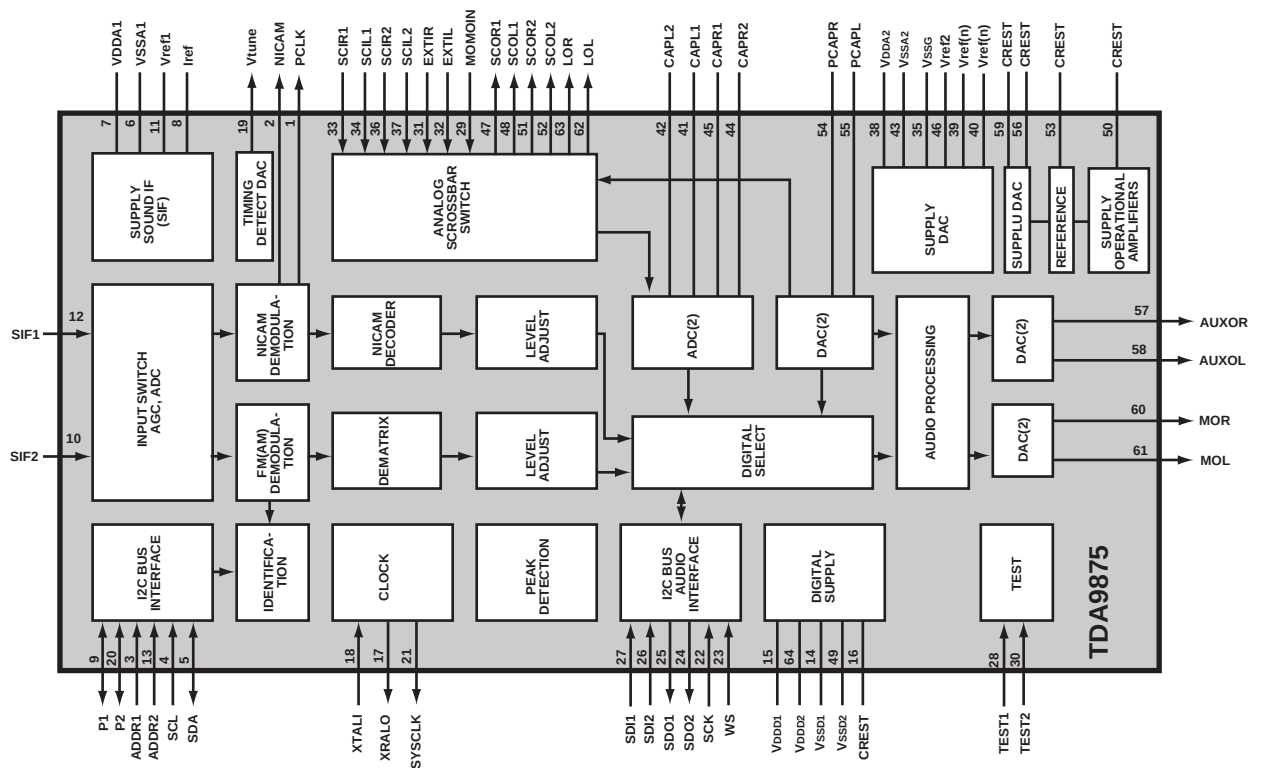
IC1303 M34225M1<Single Chip Micro-computer>



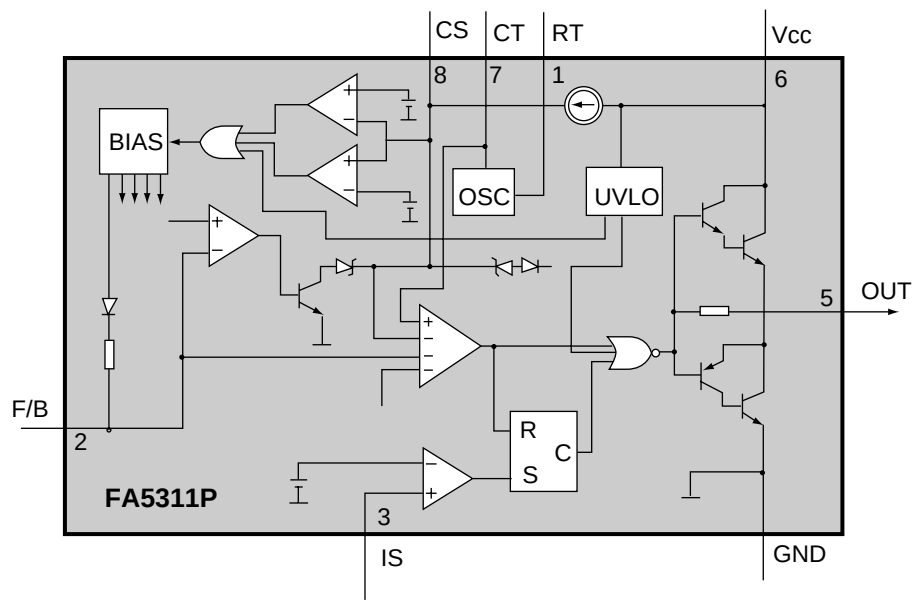
IC1201 MM1313BD<AV Selector>



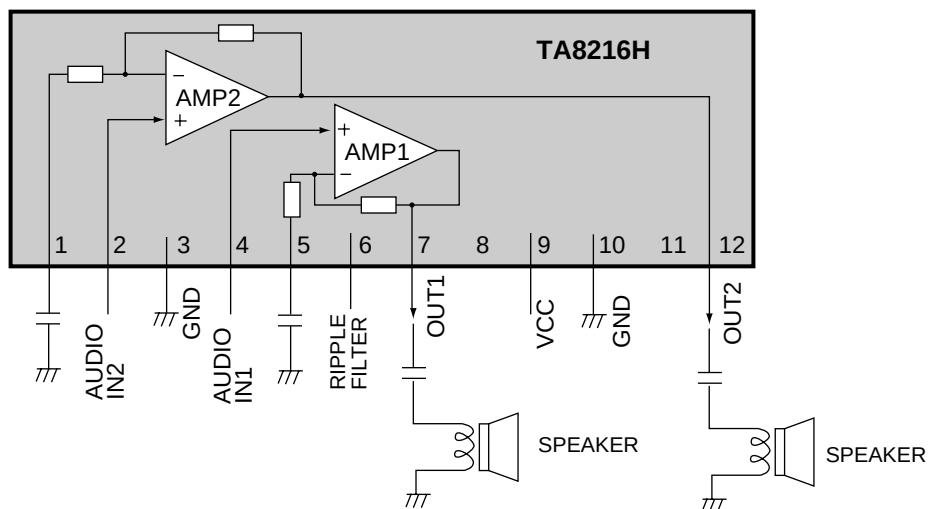
IC3451 TDA9875A <NICAM & Stereo Sound Decoder>



IC3001 FA5311P <Power Switching Controller>

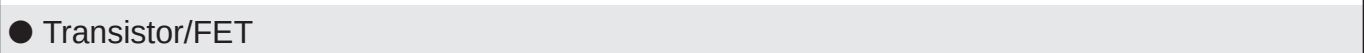


IC3051 TA8216H <Audio Amplifier>



● Diode

K: Cathode
 A: Anode

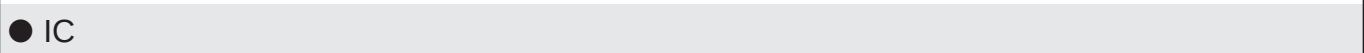


The diagrams show various transistor and FET packages and symbols:

- Transistor Packages:**
 - TO-18 (3 pins: B, C, E)
 - TO-18 (3 pins: C, B, E)
 - TO-18 (3 pins: B, C, E)
 - TO-18 (3 pins: B, C, E)
 - TO-18 (3 pins: B, E)
 - TO-18 (3 pins: B1, E, B2)
 - TO-18 (3 pins: E2, B2, C1)
- Transistor Symbols:**
 - Common emitter (3 pins: C, B, E)
 - Common emitter (3 pins: E, B, C)
 - Common emitter (3 pins: B1, E, B2)
 - Common emitter (3 pins: C1, C2, E)
 - Common emitter (3 pins: B1, B2, E)
- FET Packages:**
 - TO-18 (3 pins: G, D, S)
- FET Symbols:**
 - Common source (3 pins: S, G, D)

Legend:

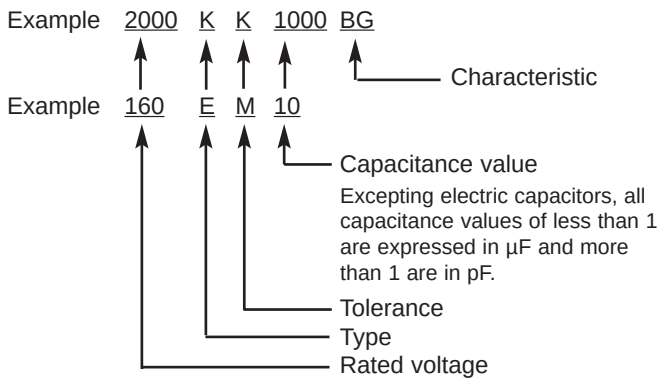
- C: Collector
- B: Base
- E: Emitter
- D: Drain
- G: Gate
- S: Source



PARTS DESCRIPTION AND READING IN SCHEMATIC DIAGRAM

1. The parts specification of resistors, capacitors and coils are expressed in designated code. Please check the parts description by the following code table.
2. Some of transistors and diodes are indicated in mark for the substitution of parts name. Please check the parts name by the following code table.
3. Voltages and waveforms were taken with a video colour bar signal(1Vp-p at 75 ohms terminated) and controls to normal.
4. Voltages were taken with a high-impedance digital voltmeter.

Capacitor Reading



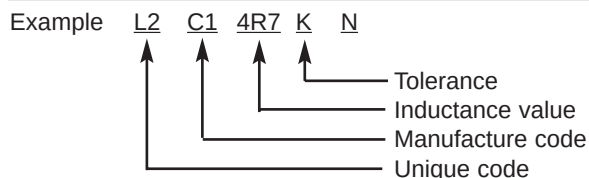
● Material table

Mark	Material
E	Electrolytic
P	Electrolytic (non-Polarised)
C	Ceramic (temperature compensation)
K	Ceramic
F	Polyester
N	Polypropylene
M	Metalised polypropylene
H	Metalised polypropylar
B	Ceramic (semiconductor)
G	Metalised polyester
Y	Composite film
S	Styrol
T	Tantalum oxide solid electrolytic
U	Organic semiconductive electrolyte
D	Electric double layer electrolytic

● Tolerance table

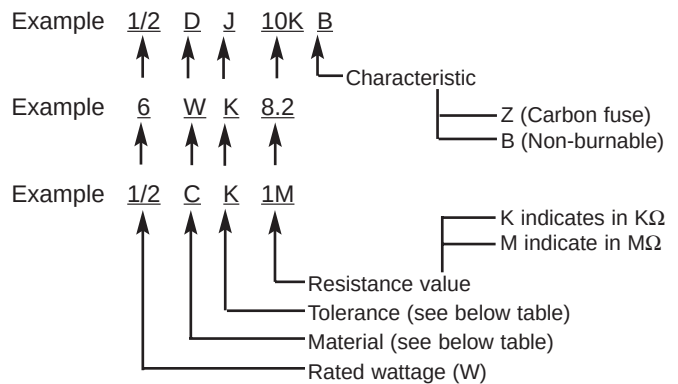
Mark	Tolerance
A	not specified
B	± 0.1
C	± 0.25
D	± 0.5
F	± 1
G	± 2
E	± 2.5
H	± 3
J	± 5
K	± 10
M	± 20
N	± 30
P	+100 -0
Q	+30 -10
T	+50 -10
U	+75 -10
V	+20 -10
W	+100 -10
X	+40 -20
Y	+150 -10
Z	+80 -20

Coil Reading



Mark	Tolerance (nH)	Mark	Tolerance (%)
C	± 0.25	G	± 2
D	± 0.5	J	± 5
S	± 0.3	K	± 10
A	± 0.2	L	± 15
		M	± 20

Resistor Reading



Note: Resistor which is indicated with resistance value only are 1/6W carbon resistor. Resistor which is indicated with material, tolerance and value are 1/4W rated wattage.

● Material table

Mark	Material
D	Carbon
N	Metal film
S	Oxide metal film
C	Solid
G	Metal glaze
W	Wire winding or cement
H	Ceramic
F	Fusible

● Tolerance table

Mark	Tolerance
A	± 0.05
B	± 0.1
C	± 0.25
D	± 0.5
F	± 1
G	± 2
J	± 5
K	± 10
M	± 20
P	+5 -15
Z	used in 0 ohm

Diode/Transistor Type Reading

● Diode

Mark	Type number
--	1S1555,1S2473,1S2076,1SS133,DS442,1SS176
K	1S1555,1S2473,1S2076,DS442
L	1S1555,1S2076A,1S2471
M	1SS133,1SS176,GMA01
N	1S1555,1S2473,1S2076,1SS133,DS442,1SS176,1N4148
P	1S1555,1S2076A,1S2471,1N4148
R	1S1555,1S2076,1S2473,DS442,1N4148
AA	1S1555,1S2076,1S2473,1SS133,DS442,1SS176,1N4148,GMA01

● Transistor (NPN type)

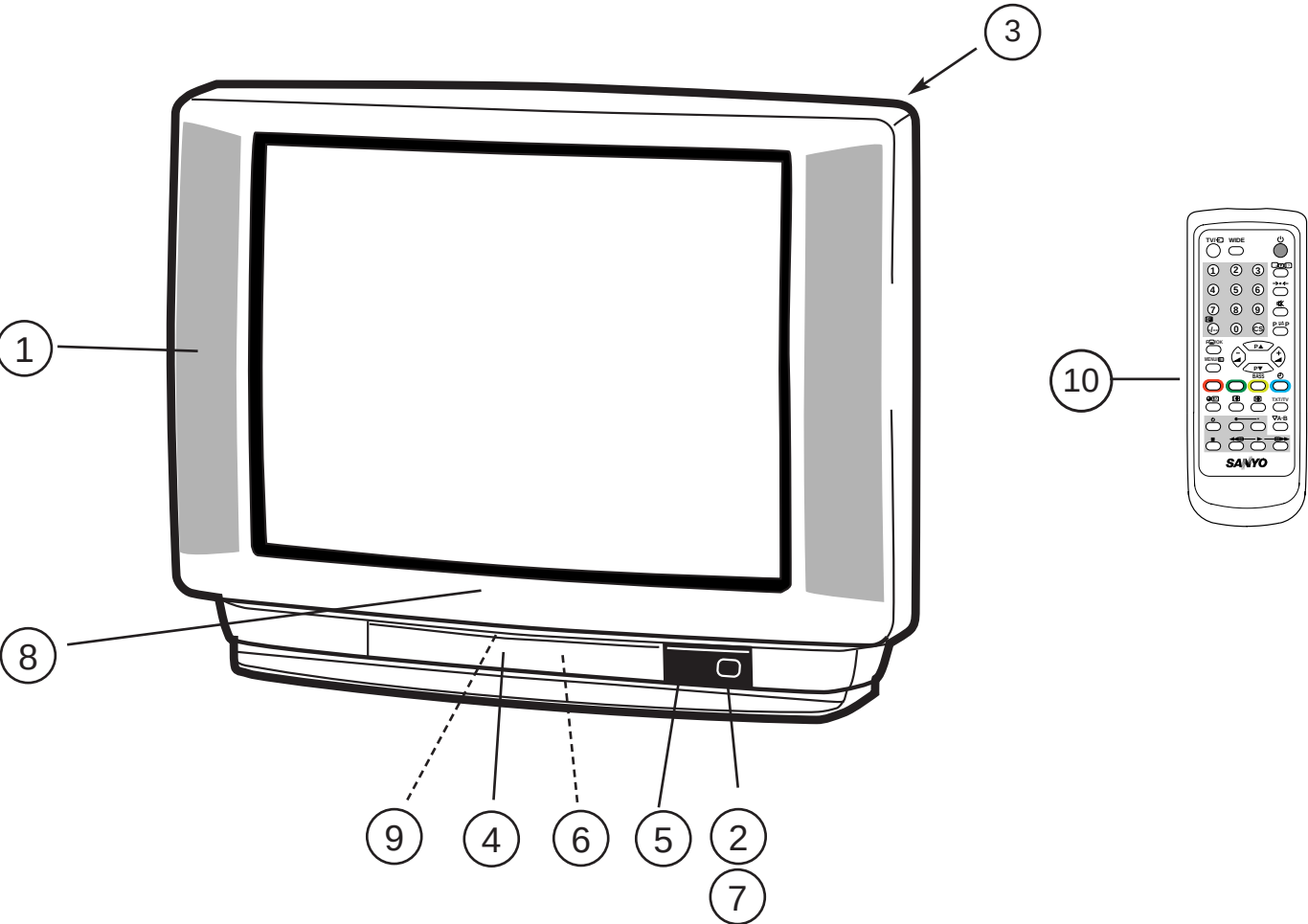
Mark	Type number
--	2SC536 2SC945A 2SC1815 2SC1740 2SC1740S KSC945C
A	E, F, G P, Q, R O, Y, G Q, R, S Q, R, S
B	E, F, G P, Q, R O, Y, G Q, R, S
D	F, G P, Q Y, G Q, R, S
F	F, G P G R, S
H	F, G P, Q Y, G Q, R, S Y, G
I	E, F, G P, Q, R O, Y, G Q, R, S Y, G
G	F, G P G R, S
AD	F, G Q, R Y, GR Q, R, S
AE	E, F, G Q, R O, Y, GR Q, R, S

● Transistor (PNP type)

Mark	Type number
--	2SA608 2SA564A 2SA1015 2SA933 2SA933S KSA733C
Y	E, F Q, R O, Y, G Q, R
W	F R Y, G R
V	E, F Q, R O, Y, G Q, R Y, G
U	F R Y, G R G
Z	E, F Q, R O, Y, G Q, R Q, R
AB	F R Y Q, R
AE	E, F Q, R O, Y R

CABINET PARTS LIST FOR MODEL CE28B5-C-00

Note: Parts order must contain Service Ref. No., Part No., and descriptions.



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET PARTS			ACCESSORIES		
1	610 273 1767	ASSY, CABINET FR-F7SDV	10	JXMKE	RC TRANSMITTER
2	610 261 6057	BUTTON POWER-F3SCM		SKP10268	INST MANUAL-C3JE (1)
3	610 286 7688	CABINET BACK-F3SLV-A		SKP10269	INST MANUAL-C2JE (2)
4	610 289 9368	D00R-F7SDV		SKP20319	SHEM DIAG -C3SEV-00
5	610 261 6132	DEC BOARD-F3SCM		645 027 6927	BATTERY
6	610 275 0232	DEC CONTROL SHEET-F3JPV			
7	610 261 3032	SPRING-E7GC			
8	645 023 4316	BADGE, SANYO*46.2X13.5L45			
9	610 104 2505	LATCH PUSH, 7.9X6.9BK			

CHASSIS ELECTRICAL PARTS LIST

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a Δ mark in this parts list and the circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the following parts list be used for components replacement pointed out by the mark Δ .

Note: Parts order must contain Service Ref. No., Part No., and descriptions.

	Ref. No.	Part No.	Description
Read description in the Capacitor and Resistor as follows: CAPACITOR CERAMIC 100P K 50V Rated Voltage Tolerance Symbols: Less than 10PF A: Not specified B: ± 0.1PF C: ± 0.25PF D: ± 0.5PF F: ± 1PF G: ± 2PF R: ± 0.25-0PF S: ± 0.025PF E: ± 0.1PF More than 10PF A: Not specified B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1\%$ G: $\pm 2\%$ H: $\pm 3\%$ J: $\pm 5\%$ K: $\pm 10\%$ L: $\pm 15\%$ M: $\pm 20\%$ N: $\pm 30\%$ P: ± 100-0% Q: ± 30-10% T: ± 50-10% U: ± 75-10% V: ± 20-10% W: ± 100-10% X: ± 40-20% Y: ± 150-10% Z: ± 80-20% Rated value: P=pico farad, U=Micro farad Material: CERAMIC Ceramic MT-PAPER Metallized Paper POLYESTER Polyester MT-POLYEST Metallized Polyester POLYPRO.....Polypropylene MT-POLYPRO Metallized Polypropylene COMPO FILM.....Composite film MT-COMPO Metallized Composite STYRENE.....Styrene TA-SOLID Tantalum Solid AL-SOLID Aluminium Solid ELECT Electrolytic NP-ELECT Non-polarised Electrolytic OS-SOLID Aluminium Solid with Organic Semiconductive Electrolytic DL-ELECT Double Layered Electrolytic RESISTOR CARBON 4.7K J A 1/4W Rated Wattage Performance Symbols: A: General B: Non flammable Z: Low noise Other: Temperature coefficient Tolerance Symbols: A: $\pm 0.05\%$ B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$ F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$ P: ± 5-15% Rated value, ohms: K: 1,000, M: 1,000,000 Material: CARBON Carbon MT-FILM Metal Film OXIDE-MT Oxide Metal Film SOLID Composition MT-GLAZE Metal Glaze WIRE WOUND Wire Wound CERAMIC RES Ceramic FUSIBLE RES Fusible	Chassis construction CE28B5-C-00 1AA0B10H050T0 ASSY,PWB,MAIN C3SE (Page 24~29) 1AA0B10H047B0 ASSY,PWB,HARMONICS EB6 AC (Page 29) 1AA0B10H043N0 NO 3D&FAV. A2.SW.C3JEV (Page 29~30) 1AA0B10E59500 ASSY,PWB,CRT C2WC (Page 30) OUT OF CIRCUIT-013C2WTV (Page 31) 1AA0B10H050T0 ASSY,PWB,MAIN C3SEV CAPACITOR C001 403 314 5915 SMD CAP GRM40X7R474K16 C002 403 215 2310 CERAMIC 0.012U K 50V C003 403 314 5915 SMD CAP GRM40X7R474K16 C004 403 215 2310 CERAMIC 0.012U K 50V C005 403 258 3619 25 YK 33 M TA 0511 C006 403 258 3619 25 YK 33 M TA 0511 C007 403 164 0214 CERAMIC 0.1U Z 25V C008 403 164 0214 CERAMIC 0.1U Z 25V C009 403 164 0214 CERAMIC 0.1U Z 25V C010 403 164 0214 CERAMIC 0.1U Z 25V C011 403 218 8101 ELECT 1000U M 25V C012 403 218 8101 ELECT 1000U M 25V C015 403 047 5065 ELECT 470U M 25V C021 403 154 1917 35 YK 1000 M TA K1220 C052 403 113 3815 CERAMIC 1000P K 50V C053 403 149 9218 CERAMIC 0.01U Z 50V C054 403 068 9016 CERAMIC 100P K 50V C1001 401 105 7919 MT-GLAZE 0.000 ZA 1/16W C101 403 233 1517 50 YK 4R7 M TA 0511 C1010 403 157 3611 CERAMIC 100P J 50V C1011 403 279 4312 CERAMIC 0.33U K 16V C1012 403 157 3611 CERAMIC 100P J 50V C1013 403 279 4312 CERAMIC 0.33U K 16V C1014 403 113 3815 CERAMIC 1000P K 50V C1015 403 233 0817 ELECT 10U M 50V C1016 403 113 3815 CERAMIC 1000P K 50V C1017 403 189 2425 ELECT 16MS7 10M TZ 0407 C1018 401 105 7919 MT-GLAZE 0.000 ZA 1/16W C102 403 039 3527 ELECT 470U M 6.3V C1020 403 149 9218 CERAMIC 0.01U Z 50V C1021 403 157 3611 CERAMIC 100P J 50V C1022 403 279 4312 CERAMIC 0.33U K 16V C1024 403 157 3611 CERAMIC 100P J 50V C1025 403 279 4312 CERAMIC 0.33U K 16V C1026 403 113 3815 CERAMIC 1000P K 50V C1027 403 233 0817 ELECT 10U M 50V C1028 403 113 3815 CERAMIC 1000P K 50V C1029 403 233 0817 ELECT 10U M 50V C103 403 039 3527 ELECT 470U M 6.3V C104 403 233 0817 ELECT 10U M 50V C106 403 149 9218 CERAMIC 0.01U Z 50V C109 403 149 9218 CERAMIC 0.01U Z 50V C110 403 149 9218 CERAMIC 0.01U Z 50V C121 403 149 9218 CERAMIC 0.01U Z 50V		

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D1013	407 012 4416	DIODE 1SS133-T-77	COIL		
D1021	407 063 8319	ZENER DIODE MTZJ11C	L1003	610 078 5946	PIPE CORE
D1022	407 063 8319	ZENER DIODE MTZJ11C	L1010	645 001 4550	PEAKING COIL 10UHK
D1023	407 063 8319	ZENER DIODE MTZJ11C	L1011	645 001 4550	PEAKING COIL 10UHK
D1024	407 063 8319	ZENER DIODE MTZJ11C	L1012	645 001 4550	PEAKING COIL 10UHK
D1025	407 063 8319	ZENER DIODE MTZJ11C	L1013	645 001 4550	PEAKING COIL 10UHK
D1026	407 063 8319	ZENER DIODE MTZJ11C	L1017	610 078 5946	PIPE CORE
D1901	407 120 9706	LED LN28RPL	L1020	645 001 4550	PEAKING COIL 10UHK
D1901A	610 269 4697	HOLDER LED A-E7GC	L1021	645 001 4550	PEAKING COIL 10UHK
D1906	407 063 9514	ZEN DIODE	L1022	645 001 4550	PEAKING COIL 10UHK
△ D431	407 063 9613	ZENER DIODE MTZJ9.1A	L1023	645 001 4550	PEAKING COIL 10UHK
△ D438	407 095 8001	DIODE ERD07-15L	L121	645 001 4635	PEAKING COIL 15UH K
D439	407 006 4128	DIODE ERB44-04V1	L122	645 002 1459	PEAKING COIL
D442	408 007 8607	DIODE 1N4148	L123	401 016 9821	CARBON 27JA 1/4W FLAM-RET
D445	407 012 4416	DIODE 1SS133-T-77	L171	645 040 2715	TRANS,OSC 38.9MHZ
D446	407 063 9415	ZENER DIODE MTZJ8.2A	L240	645 001 4550	PEAKING COIL 10UHK
D463	407 012 4416	DIODE 1SS133-T-77	L241	645 001 4550	PEAKING COIL 10UHK
D466	407 099 7812	ZENER DIODE MTZJT-77-20A	L242	645 001 4550	PEAKING COIL 10UHK
D469	407 007 7415	DIODE EU1	L431	645 008 5628	INDUCTOR,1U M
D481	407 007 7415	DIODE EU1	L432	645 002 4511	CORE,PIPE
D482	407 012 4416	DIODE 1SS133-T-77	L441	645 036 7380	COIL,LINEARITY
D501	407 005 7328	DIODE EM01Z	L442	610 219 0342	COIL
D502	407 118 2217	ZENER DIODE 1Z75	L461	645 005 5645	INDUCTOR 222UH K
D603	407 009 6921	DIODE RM11C	L462	610 000 0261	COIL 349UH
D604	407 009 6921	DIODE RM11C	L501	645 008 5642	INDUCTOR,3.3U K
D605	407 009 6921	DIODE RM11C	L601A	645 019 3873	LINE FILTER-SAMWHA TECOM
D606	407 009 6921	DIODE RM11C	L607	610 237 1000	PIPE CORE
D613	407 012 4416	DIODE 1SS133-T-77	L608	610 237 1000	PIPE CORE
△ D614	408 007 8607	DIODE 1N4148	L641	610 078 6820	PIPE CORE
△ D615	407 173 2907	PHOTO COUPLE PC123F2	L645	645 007 8194	INDUCTOR 120UH SUGAMI
D616	408 007 8607	DIODE 1N4148	L646	645 007 8194	INDUCTOR 120UH SUGAMI
D617	407 007 6616	DIODE ES1	L801	645 003 8549	PEAKING COIL
D618	408 007 8607	DIODE 1N4148	L802	645 003 8549	PEAKING COIL
D619	407 063 8319	ZENER DIODE MTZJ11C	L803	645 003 8549	PEAKING COIL
△ D630	407 007 7613	DIODE EU2	L804	645 003 8549	PEAKING COIL
△ D633	407 166 2303	DIODE ERC-91-02L	L805	645 003 8549	PEAKING COIL
D634	407 007 7613	DIODE EU2	TRANSISTOR		
△ D635	407 129 6706	DIODE RU4YX LF-L1	Q001	405 014 4519	TR 2SC2412KT146/R
D637	407 012 4416	DIODE 1SS133-T-77	Q1001	405 014 4519	TR 2SC2412KT146/R
D641	407 012 4416	DIODE 1SS133-T-77	Q1002	405 002 0318	TR 2SA1037K-T96-R
△ D642A	407 009 8816	DIODE RU3AM	Q1003	405 014 4519	TR 2SC2412KT146/R
D643	407 012 4416	DIODE 1SS133-T-77	Q1006	405 002 0318	TR 2SA1037K-T96-R
D645	407 099 5511	ZENER DIODE MTZJ6.2C	Q1007	405 002 0318	TR 2SA1037K-T96-R
D681	407 005 7328	DIODE EM01Z	Q1008	405 002 0318	TR 2SA1037K-T96-R
D682	407 063 8913	ZENER DIODE MTZJ5.6C	Q1010	405 014 4519	TR 2SC2412KT146/R
D683	407 005 7328	DIODE EM01Z	Q1011	405 014 4519	TR 2SC2412KT146/R
D684	408 007 8607	DIODE 1N4148	Q121	405 014 4519	TR 2SC2412KT146/R
D685	407 012 4416	DIODE 1SS133-T-77	Q122	405 014 4519	TR 2SC2412KT146/R
D826	407 099 4811	ZENER DIODE MTZJ4.3B	Q131	405 002 0318	TR 2SA1037K-T96-R
D831	407 012 4416	DIODE 1SS133-T-77	Q132	405 002 0318	TR 2SA1037K-T96-R
INTERGRATED CIRCUITS			Q133	405 014 4519	TR 2SC2412KT146/R
IC001	409 301 4906	IC TDA7263M	Q141	405 015 9721	TR 2SC2814-F4-TB
IC001-1	610 251 4186	AUDIO HEATSINK ASSY E7PC	Q153	405 002 0318	TR 2SA1037K-T96-R
IC201	409 504 3300	IC TB1251CN VER 6.3	Q1901	405 014 4519	TR 2SC2412KT146/R
IC501	409 192 5709	IC LA7833	Q1902	405 014 4519	TR 2SC2412KT146/R
IC641	409 241 5407	IC BA178M05T	Q242	405 002 0318	TR 2SA1037K-T96-R
IC642	409 377 5401	IC L78M09CV ST	Q243	405 002 0318	TR 2SA1037K-T96-R
IC801	QXXAVB690---P	IC ST92R195B9/ENT	Q244	405 002 0318	TR 2SA1037K-T96-R
IC802	AAJQ0281A-	C2KEV VP/P 11E5	Q431	405 018 0616	TR 2SC3332-S
IC803	409 343 6302	IC 24LC04B/P	Q432	406 015 2501	ON5111 (BU2708DX) PH.
TRANSFORMER			Q432-1	610 252 1108	H HEAT SINK E7LC
△ T431	610 000 1077	DRIVE TRANS	Q461	405 064 7307	TR 2SB1274-Q-RA
△ T451	645 038 7616	TRANS,FLYBACK	Q461-1	610 251 5916	HEAT SINK PCC E7LC
△ T611	645 041 2240	TRANS,POWER,PULSE	Q462	406 007 2106	TR JC546A
△ T681	610 033 3758	POWER TRANS	Q501	405 014 4519	TR 2SC2412KT146/R
			Q611	406 007 1901	TR JC556A
			Q612	405 058 0208	TR 2SC3807-R-CTV-YA
			Q613	405 095 0407	TR 2SC4429-L-YB
			Q613-1	610 251 5893	POW HEAT SINK E7LC

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
Q641	405 014 4519	TR 2SC2412KT146/R	R135	401 105 5212	MT-GLAZE 470 JA 1/16W
Q652	405 014 4519	TR 2SC2412KT146/R	R136	401 105 0415	MT-GLAZE 100 JA 1/16W
Q681	405 059 9804	TR 2SD1913-Q-RA	R137	401 105 5212	MT-GLAZE 470 JA 1/16W
Q682	405 002 0318	TR 2SA1037K-T96-R	R138	401 105 5212	MT-GLAZE 470 JA 1/16W
Q804	405 014 4519	TR 2SC2412KT146/R	R139	401 105 3119	MT-GLAZE 27 JA 1/16W
Q805	405 014 4519	TR 2SC2412KT146/R	R140	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
Q806	405 014 4519	TR 2SC2412KT146/R	R141	401 105 6011	MT-GLAZE 5.6K JA 1/16W
Q807	405 002 0318	TR 2SA1037K-T96-R	R142	401 105 0514	MT-GLAZE 1K JA 1/16W
Q810	405 014 4519	TR 2SC2412KT146/R	R143	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
RESISTOR			R144	401 105 2716	MT-GLAZE 220 JA 1/16W
R001	401 025 1625	CARBON 1K5 JA 1/6W	R149	401 027 2125	CARBON 56 JA 1/6W
R002	401 105 1016	MT-GLAZE 1.2K JA 1/16W	R153	401 105 5212	MT-GLAZE 470 JA 1/16W
R003	401 025 1625	CARBON 1K5 JA 1/6W	R157	401 105 0613	MT-GLAZE 10K JA 1/16W
R004	401 105 1016	MT-GLAZE 1.2K JA 1/16W	R158	401 105 4710	MT-GLAZE 39K JA 1/16W
R005	401 026 9323	CARBON 47 JA 1/6W	R1901	401 105 1610	MT-GLAZE 15K JA 1/16W
R006	401 025 1625	CARBON 1K5 JA 1/6W	R1901A	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
R007	401 026 9323	CARBON 47 JA 1/6W	R1902	401 105 7414	MT-GLAZE 8.2K JA 1/16W
R008	401 025 1625	CARBON 1K5 JA 1/6W	R1902A	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
R009	401 026 8128	CARBON 4.7 JA 1/6W	R1903	401 105 5311	MT-GLAZE 4.7K JA 1/16W
R010	401 026 8128	CARBON 4.7 JA 1/6W	R1903A	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
R013	401 105 0514	MT-GLAZE 1K JA 1/16W	R1904	401 105 3317	MT-GLAZE 2.7K JA 1/16W
R014	401 022 1935	CARBON 680 JA 1/4W	R1905	401 105 2815	MT-GLAZE 2.2K JA 1/16W
R015	401 025 7429	CARBON 220 JA 1/6W	R1906	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
R016	401 022 1935	CARBON 680 JA 1/4W	R1907	401 025 7429	CARBON 220 JA 1/6W
R018	401 105 0613	MT-GLAZE 10K JA 1/16W	R1908	401 105 4017	MT-GLAZE 330 JA 1/16W
R021	401 105 0514	MT-GLAZE 1K JA 1/16W	R1909	401 105 1511	MT-GLAZE 1.5K JA 1/16W
R022	401 105 5410	MT-GLAZE 47K JA 1/16W	R1910	401 024 7430	CARBON 10K JA 1/6W
R1001	401 105 4710	MT-GLAZE 39K JA 1/16W	R1912	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
R1002	401 027 6628	CARBON 75 JA 1/6W	R1916	401 105 0514	MT-GLAZE 1K JA 1/16W
R1003	401 027 6628	CARBON 75 JA 1/6W	R1917	401 105 5915	MT-GLAZE 560 JA 1/16W
R1005	401 027 6628	CARBON 75 JA 1/6W	R201	401 105 1412	MT-GLAZE 150 JA 1/16W
R1006	401 105 5212	MT-GLAZE 470 JA 1/16W	R202	401 105 3416	MT-GLAZE 27K JA 1/16W
R1007	401 027 6628	CARBON 75 JA 1/6W	R211	401 105 0415	MT-GLAZE 100 JA 1/16W
R1008	401 105 5212	MT-GLAZE 470 JA 1/16W	R212	401 026 0627	CARBON 270 JA 1/6W
R1009	401 027 6628	CARBON 75 JA 1/6W	R213	401 105 3010	MT-GLAZE 220K JA 1/16W
R101	401 105 0415	MT-GLAZE 100 JA 1/16W	R214	401 105 0415	MT-GLAZE 100 JA 1/16W
R1010	401 105 5212	MT-GLAZE 470 JA 1/16W	R215	401 105 0415	MT-GLAZE 100 JA 1/16W
R1011	401 027 6628	CARBON 75 JA 1/6W	R216	401 105 0613	MT-GLAZE 10K JA 1/16W
R1012	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R217	401 024 7430	CARBON 10K JA 1/6W
R1013	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R230	401 105 4215	MT-GLAZE 33K JA 1/16W
R1014	401 105 5915	MT-GLAZE 560 JA 1/16W	R234	401 024 6720	CARBON 100 JA 1/6W
R1015	401 105 5915	MT-GLAZE 560 JA 1/16W	R235	401 024 6720	CARBON 100 JA 1/6W
R1016	401 026 7428	CARBON 39K JA 1/6W	R236	401 024 6720	CARBON 100 JA 1/6W
R1017	401 027 6628	CARBON 75 JA 1/6W	R237	401 024 6720	CARBON 100 JA 1/6W
R1018	401 027 6628	CARBON 75 JA 1/6W	R238	401 105 0415	MT-GLAZE 100 JA 1/16W
R1019	401 027 6628	CARBON 75 JA 1/6W	R239	401 105 2815	MT-GLAZE 2.2K JA 1/16W
R102	401 105 0415	MT-GLAZE 100 JA 1/16W	R240	401 105 0415	MT-GLAZE 100 JA 1/16W
R1020	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R241	401 105 2815	MT-GLAZE 2.2K JA 1/16W
R1021	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R242	401 105 0415	MT-GLAZE 100 JA 1/16W
R1022	401 105 5915	MT-GLAZE 560 JA 1/16W	R243	401 105 2815	MT-GLAZE 2.2K JA 1/16W
R1023	401 105 5915	MT-GLAZE 560 JA 1/16W	R244	401 105 4017	MT-GLAZE 330 JA 1/16W
R1024	401 105 2914	MT-GLAZE 22K JA 1/16W	R245	401 218 4614	MT-GLAZE 5.6K FA 1/16W
R1025	401 105 5311	MT-GLAZE 4.7K JA 1/16W	R246	401 105 4710	MT-GLAZE 39K JA 1/16W
R1026	401 105 0415	MT-GLAZE 100 JA 1/16W	R247	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
R1027	401 105 0514	MT-GLAZE 1K JA 1/16W	R248	401 105 7513	MT-GLAZE 82K JA 1/16W
R1028	401 105 4017	MT-GLAZE 330 JA 1/16W	R251	401 105 1214	MT-GLAZE 120K JA 1/16W
R1029	401 105 2914	MT-GLAZE 22K JA 1/16W	R253	401 025 8723	CARBON 220K JA 1/6W
R1030	401 105 1511	MT-GLAZE 1.5K JA 1/16W	R254	401 105 0712	MT-GLAZE 100K JA 1/16W
△ R103	401 061 4400	OXIDE-MT 33K JA 1W	R255	401 105 8114	MT-GLAZE 56K JA 1/16W
R124	401 105 3317	MT-GLAZE 2.7K JA 1/16W	R256	401 105 0514	MT-GLAZE 1K JA 1/16W
R126	401 105 2716	MT-GLAZE 220 JA 1/16W	R257	401 105 0514	MT-GLAZE 1K JA 1/16W
R127	401 105 5915	MT-GLAZE 560 JA 1/16W	R258	401 105 0514	MT-GLAZE 1K JA 1/16W
R128	401 105 0514	MT-GLAZE 1K JA 1/16W	△ R430	401 065 2808	OXIDE-MT 120 JA 2W
R129	401 105 2716	MT-GLAZE 220 JA 1/16W	R432	401 105 0514	MT-GLAZE 1K JA 1/16W
R130	401 105 0514	MT-GLAZE 1K JA 1/16W	R433	401 007 1134	CARBON 1K JA 1/2W
R131	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R434	401 105 0415	MT-GLAZE 100 JA 1/16W
R132	401 105 0514	MT-GLAZE 1K JA 1/16W	△ R435	402 068 0204	WIRE WOUND 10 JA 5W
R133	401 105 0514	MT-GLAZE 1K JA 1/16W	R436	401 021 3049	CARBON 5.6K JA 1/4W
R134	401 105 0514	MT-GLAZE 1K JA 1/16W	R437	401 026 3925	CARBON 330 JA 1/6W
			△ R441	401 058 3706	OXIDE-MT 1K JA 1W

	Ref. No.	Part No.	Description						Ref. No.	Part No.	Description				
	R446	401 021 3049	CARBON	5.6K	JA	1/4W		R814	401 105 7919	MT-GLAZE	0.000	ZA	1/16W		
	R447	401 026 9927	CARBON	4K7	JA	1/6W		R815	401 105 0415	MT-GLAZE	100	JA	1/16W		
	R448	401 009 5843	CARBON	330	JA	1/2W		R817	401 105 7919	MT-GLAZE	0.000	ZA	1/16W		
⚠	R449	401 067 0000	OXIDE-MT	270	JA	2W		R818	401 105 5410	MT-GLAZE	47K	JA	1/16W		
	R450	401 025 1922	CARBON	15K	JA	1/6W		R819	401 026 9927	CARBON	4K7	JA	1/6W		
⚠	R451	401 064 5701	OXIDE-MT	1.8	JA	2W		R820	401 105 4215	MT-GLAZE	33K	JA	1/16W		
	R453	401 024 7024	CARBON	1K	JA	1/6W		R822	401 105 0613	MT-GLAZE	10K	JA	1/16W		
	R454	401 014 6149	CARBON	150K	JA	1/4W		R826	401 105 0613	MT-GLAZE	10K	JA	1/16W		
	R455	401 019 4031	CARBON	390K	JA	1/4W		R829	401 105 4215	MT-GLAZE	33K	JA	1/16W		
	R461	401 105 7919	MT-GLAZE	0.000	ZA	1/16W		R830	401 105 4215	MT-GLAZE	33K	JA	1/16W		
	R462	401 105 7919	MT-GLAZE	0.000	ZA	1/16W		R831	401 105 0613	MT-GLAZE	10K	JA	1/16W		
	R464	401 026 9927	CARBON	4K7	JA	1/6W		R832	401 105 0613	MT-GLAZE	10K	JA	1/16W		
	R469	401 026 1327	CARBON	27K	JA	1/6W		R836	401 105 6615	MT-GLAZE	6.8K	JA	1/16W		
	R470	401 024 7727	CARBON	100K	JA	1/6W		R837	401 105 6011	MT-GLAZE	5.6K	JA	1/16W		
	R471	401 027 5225	CARBON	680	JA	1/6W		R838	401 105 6011	MT-GLAZE	5.6K	JA	1/16W		
	R473	401 027 5225	CARBON	680	JA	1/6W		R839	401 105 6011	MT-GLAZE	5.6K	JA	1/16W		
	R474	401 009 0927	CARBON	270	JA	1/2W		R840	401 105 0514	MT-GLAZE	1K	JA	1/16W		
	R481	401 016 5843	CARBON	220K	JA	1/4W		R842	401 105 1610	MT-GLAZE	15K	JA	1/16W		
	R482	401 027 5522	CARBON	6K8	JA	1/6W		R843	401 105 2716	MT-GLAZE	220	JA	1/16W		
	R504	401 105 8114	MT-GLAZE	56K	JA	1/16W		R844	401 105 2716	MT-GLAZE	220	JA	1/16W		
	R505	401 025 4626	CARBON	18K	JA	1/6W		R845	401 105 2716	MT-GLAZE	220	JA	1/16W		
	R506	401 024 7430	CARBON	10K	JA	1/6W		R846	401 105 0415	MT-GLAZE	100	JA	1/16W		
	R507	401 027 8127	CARBON	82	JA	1/6W		R847	401 105 3317	MT-GLAZE	2.7K	JA	1/16W		
⚠	R509	401 057 7507	OXIDE-MT	0.82	JA	1W		R848	401 105 3317	MT-GLAZE	2.7K	JA	1/16W		
⚠	R512	401 062 1200	OXIDE-MT	470	JA	1W		R849	401 105 3317	MT-GLAZE	2.7K	JA	1/16W		
⚠	R513	401 062 1200	OXIDE-MT	470	JA	1W		R852	401 105 3416	MT-GLAZE	27K	JA	1/16W		
⚠	R515	401 068 1600	OXIDE-MT	4.7	JA	2W		R853	401 105 2914	MT-GLAZE	22K	JA	1/16W		
	R523	401 105 5311	MT-GLAZE	4.7K	JA	1/16W		R854	401 105 5311	MT-GLAZE	4.7K	JA	1/16W		
	R535	401 105 7919	MT-GLAZE	0.000	ZA	1/16W		R855	401 105 0613	MT-GLAZE	10K	JA	1/16W		
⚠	R602	402 071 0000	WIRE WOUND			5W		R856	401 105 6011	MT-GLAZE	5.6K	JA	1/16W		
	R611	401 027 2620	CARBON	5K6	JA	1/6W		R857	401 105 4215	MT-GLAZE	33K	JA	1/16W		
	R612	401 026 9620	CARBON	470	JA	1/6W		R858	401 026 3925	CARBON	330	JA	1/6W		
	R615	401 025 8228	CARBON	22K	JA	1/6W		R859	401 105 5915	MT-GLAZE	560	JA	1/16W		
	R617	401 024 9325	CARBON	1K2	JA	1/6W		R861	401 105 6516	MT-GLAZE	680	JA	1/16W		
	R619	401 016 1538	CARBON	22	JA	1/4W		R862	401 105 7414	MT-GLAZE	8.2K	JA	1/16W		
	R620	401 007 5815	CARBON	120K	JA	1/2W		R863	401 105 1610	MT-GLAZE	15K	JA	1/16W		
	R621	401 007 5815	CARBON	120K	JA	1/2W		R864	401 105 4017	MT-GLAZE	330	JA	1/16W		
	R622	401 014 5241	CARBON	15K	JA	1/4W		R872	401 105 0613	MT-GLAZE	10K	JA	1/16W		
	R623	401 026 4328	CARBON	3K3	JA	1/6W		R873	401 105 0613	MT-GLAZE	10K	JA	1/16W		
⚠	R625	401 065 9609	OXIDE-MT	18	JA	2W		R874	401 026 9620	CARBON	470	JA	1/6W		
	R626	401 015 2209	CARBON	1.8K	GA	1/4W		R875	401 026 9620	CARBON	470	JA	1/6W		
⚠	R628	401 068 6902	OXIDE-MT	56	JA	2W		R876	401 024 7430	CARBON	10K	JA	1/6W		
⚠	R631	402 000 8602	SOLID	5.6M	KA	1/2W		R878	401 024 7430	CARBON	10K	JA	1/6W		
⚠	R632	402 000 8602	SOLID	5.6M	KA	1/2W		R879	401 105 0613	MT-GLAZE	10K	JA	1/16W		
⚠	R634	401 059 1602	OXIDE-MT	15	JA	1W		R880	401 105 4710	MT-GLAZE	39K	JA	1/16W		
⚠	R637	402 069 8704	WIRE WOUND	8.2	KA	7W		R881	401 105 0514	MT-GLAZE	1K	JA	1/16W		
⚠	R638	402 069 9800	WIRE WOUND	2.7	KA	5W		R882	401 025 7429	CARBON	220	JA	1/6W		
	R641	401 027 4327	CARBON	6.2K	JA	1/6W									
	R642	401 014 6149	CARBON	150K	JA	1/4W									
⚠	R643	401 065 5809	OXIDE-MT	15	JA	2W									
⚠	R644	401 061 0006	OXIDE-MT	3.3	JA	1W									
	R645	401 016 4836	CARBON	22K	JA	1/4W									
	R646	401 015 4738	CARBON	180K	JA	1/4W									
	R647	401 011 2718	CARBON	68K	JA	1/2W									
	R648	401 027 0329	CARBON	47K	JA	1/6W									
	R653	401 105 2914	MT-GLAZE	22K	JA	1/16W									
	R654	401 105 0613	MT-GLAZE	10K	JA	1/16W									
	R681	401 008 1628	CARBON	1K8	JA	1/2W									
⚠	R682	401 066 5204	OXIDE-MT	22	JA	2W									
	R684	401 027 8622	CARBON	8K2	JA	1/6W									
	R685	401 025 8228	CARBON	22K	JA	1/6W									
	R801	401 105 5410	MT-GLAZE	47K	JA	1/16W									
	R802	401 105 0613	MT-GLAZE	10K	JA	1/16W									
	R803	401 105 0613	MT-GLAZE	10K	JA	1/16W									
	R804	401 105 0613	MT-GLAZE	10K	JA	1/16W									
	R805	401 105 6011	MT-GLAZE	5.6K	JA	1/16W									
	R806	401 105 0613	MT-GLAZE	10K	JA	1/16W									
	R807	401 105 0613	MT-GLAZE	10K	JA	1/16W									
	R808	401 024 6720	CARBON	100	JA	1/6W									
	R810	401 105 7919	MT-GLAZE	0.000	ZA	1/16W									

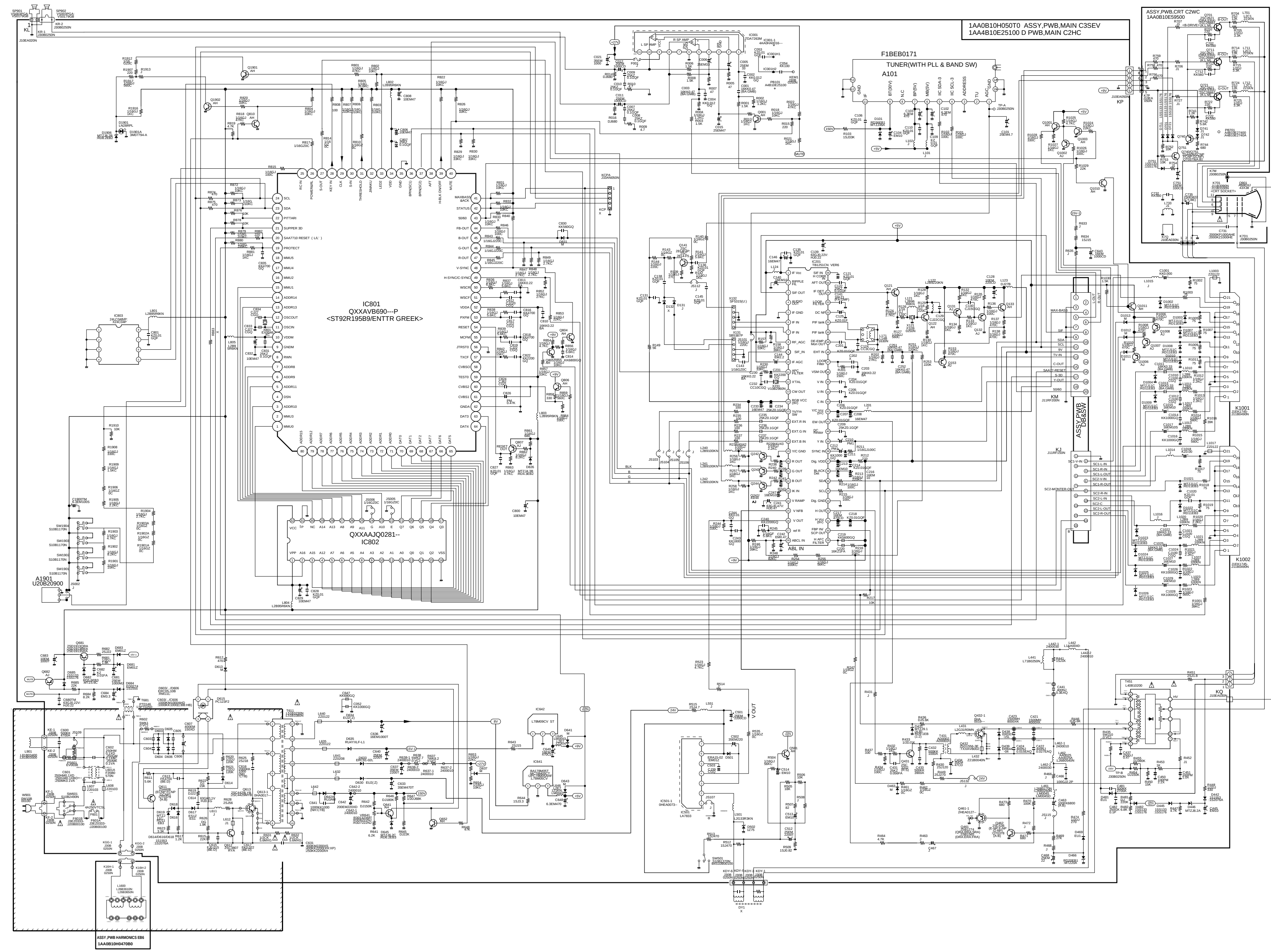
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
J305	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	1AA0B10H043N0 NO 3D&FAV. A2.SW.C3JEV		
J325	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	CAPACITOR		
J332	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1201	403 149 9218	CERAMIC 0.01U Z 50V
J333	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1202	403 248 1618	ELECT 47U M 16V
J334	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1204	403 049 4204	ELECT 10U M 50V
J335	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1205	403 049 4204	ELECT 10U M 50V
J336	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1206	403 298 9619	CERAMIC 0.1U K 16V
J340	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1207	403 233 0817	ELECT 10U M 50V
J344	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1208	403 194 4609	ELECT 470U M 16V
J346	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1212	403 153 9310	CERAMIC 82P J 50V
J416	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1213	403 049 4204	ELECT 10U M 50V
J434	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1214	403 153 9310	CERAMIC 82P J 50V
J442	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1215	403 153 9310	CERAMIC 82P J 50V
J454	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1217	403 233 0817	ELECT 10U M 50V
J456	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1218	403 153 9310	CERAMIC 82P J 50V
J508	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1219	403 049 4204	ELECT 10U M 50V
J525	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1223	403 157 3611	CERAMIC 100P J 50V
J617	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C1224	403 157 3611	CERAMIC 100P J 50V
J623	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C3138	403 199 3102	ELECT 1000U M 10V
J629	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	C3139	403 248 1618	ELECT 47U M 16V
KCPA	645 006 1905	HSG PLUG 5P S5B-XH-A JST	C3452	403 314 5915	SMD CAP GRM40X5R474K16
KDY-1	645 008 4058	TERMINAL PLUG	C3453	403 157 2911	CERAMIC 47P J 50V
KDY-3	645 008 4058	TERMINAL PLUG	C3454	403 164 0214	CERAMIC 0.1U Z 25V
KDY-5	645 008 4058	TERMINAL PLUG	C3456	403 298 9619	CERAMIC 0.1U K 16V
KDY-6	645 008 4058	TERMINAL PLUG	C3458	403 157 2911	CERAMIC 47P J 50V
△ KE-1	645 008 4058	TERMINAL PLUG	C3459	403 248 1618	ELECT 47U M 16V
KE-2	645 008 4058	TERMINAL PLUG	C3461	403 248 1410	ELECT 1U M 50V
KEM1	645 008 4058	TERMINAL PLUG	C3467	403 248 1410	ELECT 1U M 50V
△ KF-1	645 008 4058	TERMINAL PLUG	C3468	403 164 0214	CERAMIC 0.1U Z 25V
KF-2	645 008 4058	TERMINAL PLUG	C3469	403 164 0214	CERAMIC 0.1U Z 25V
KGG-1	645 008 4058	TERMINAL PLUG	C3473	403 279 4312	CERAMIC 0.33U K 16V
KGG-2	645 008 4058	TERMINAL PLUG	C3474	403 279 4312	CERAMIC 0.33U K 16V
KJ	645 040 4627	SOCKET,PWB-PWB 15P	C3476	403 314 5915	SMD CAP GRM40X5R474K16
KL	645 004 2881	PLUG, 2P	C3477	403 248 1618	ELECT 47U M 16V
KM	645 032 1924	SOCKET,PWB-PWB 20P	C3480	403 248 1618	ELECT 47U M 16V
KP	645 008 7288	HOUSING PLUG 5P	C3481	403 248 1618	ELECT 47U M 16V
KQ	645 008 7264	HOUSING PLUG 3P	C3482	403 149 9218	CERAMIC 0.01U Z 50V
KR-1	645 008 4058	TERMINAL PLUG	C3483	403 149 9218	CERAMIC 0.01U Z 50V
KR-2	645 008 4058	TERMINAL PLUG	C3484	403 248 1618	ELECT 47U M 16V
K1001	645 005 5867	21-PIN SOCKET	C3485	403 149 9218	CERAMIC 0.01U Z 50V
K1002	645 005 5867	21-PIN SOCKET	C3486	403 248 1410	ELECT 1U M 50V
PB101	610 282 2939	PWB,MAIN C2HC "D"	C3487	403 248 1410	ELECT 1U M 50V
PS601	408 013 3801	TH PTH451C262BF140M270	C3492	403 149 9218	CERAMIC 0.01U Z 50V
SW1901	610 011 4432	SWITCH,PUSH	C3493	403 149 9218	CERAMIC 0.01U Z 50V
SW1902	610 011 4432	SWITCH,PUSH	C3494	403 164 0214	CERAMIC 0.1U Z 25V
SW1903	610 011 4432	SWITCH,PUSH	C3495	403 164 0214	CERAMIC 0.1U Z 25V
SW1904	610 011 4432	SWITCH,PUSH	DIODE		
SW501	610 011 2728	SWITCH, LEVER 1P-3T	D1201	407 099 6716	Z.DIODE MTZJT-7713A
△ SW601	645 024 0607	PUSH SW POWER SDDFC3	INTERGRATED CIRCUIT		
TP-A	645 008 4058	TERMINAL PLUG	IC1201	409 116 1800	IC LA7952
TP-B	645 008 4058	TERMINAL PLUG	IC1202	409 268 8504	IC NJM2233BD
VR641	645 006 5514	VR, SEMI, 2.2K N	IC1203	409 009 2501	IC HD14052BP
X121	1AV4F32B0140N	EFC-S5R5MW3AS (5	IC3102	409 241 5407	IC BA178M05T
X131	421 007 8606	SAW F TSB5387P	IC3451	409 476 9300	IC TDA9870A/V2
X132	421 002 2609	SAW F TSF5315	COIL		
X231	645 042 3741	XTAL 4.433MHZ 16PF KSS5MM	L1202	645 008 2467	PEAKING COIL
X801	610 282 0201	XTAL. OSC 4.00MHZ 5MM	L1204	645 008 2467	PEAKING COIL
Z101	610 282 9693	SHIELD CASE C2HC-A	L1205	645 008 2467	PEAKING COIL
Z102	610 282 9709	SHIELD CASE C2HC-B	L1206	645 008 2467	PEAKING COIL
1AA0B10H047B0 ASSY,PWB,HARMONICS EB6 AC COIL			L3450	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
△ L1601	645 042 6735	CHOKE, ETQR42T004B PANA	L3452	645 011 0252	INDUCTOR, 2.2U K
MISCELLANEOUS			L3456	645 011 0252	INDUCTOR, 2.2U K
△ K16H-1	645 008 4058	TERMINAL PLUG	L3457	645 011 0252	INDUCTOR, 2.2U K
△ K16H-2	645 008 4058	TERMINAL PLUG	L3459	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
PB1601	610 286 8722	PWB,HARMONICS C2WVFV	L3469	645 008 2467	PEAKING COIL

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
TRANSISTOR			J3462	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
Q1201	405 134 5925	TR 2SA1037AK-T146-R	J3463	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
Q1202	405 014 4519	TR 2SC2412KT146/R	J3464	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
Q1203	405 014 4519	TR 2SC2412KT146/R	J3471	401 105 7919	MT-GLAZE 0.000 ZA 1/16W
Q1205	405 014 4519	TR 2SC2412KT146/R	K12J	645 040 4610	PLUG,PWB-PWB 15P
Q1206	405 134 5925	TR 2SA1037AK-T146-R	K12M	645 039 9411	PLUG,PWB-PWB 20P
Q1207	405 134 5925	TR 2SA1037AK-T146-R	PB3450	610 286 5141	PWB,NICAM&SW C2WAVX4
Q3452	405 014 4519	TR 2SC2412KT146/R	X3451	645 024 7484	OSC,CRYSTAL 24.576MHZ
Q3453	405 014 4519	TR 2SC2412KT146/R	1AA0B10E59500		
Q3454	405 014 4519	TR 2SC2412KT146/R	ASSY,PWB,CRT C2WC		
Q3455	405 014 4519	TR 2SC2412KT146/R	CAPACITOR		
RESISTOR			C702	403 074 5712	CERAMIC 560P K 50V
R1201	401 105 0415	MT-GLAZE 100 JA 1/16W	C712	403 074 5712	CERAMIC 560P K 50V
R1202	401 105 2112	MT-GLAZE 18K JA 1/16W	C722	403 074 5712	CERAMIC 560P K 50V
R1203	401 105 0415	MT-GLAZE 100 JA 1/16W	C731	403 077 2728	CERAMIC 1000P P 2K
R1204	401 105 0415	MT-GLAZE 100 JA 1/16W	C732	403 074 5712	CERAMIC 560P K 50V
R1205	401 105 2112	MT-GLAZE 18K JA 1/16W	C735	403 281 1108	ELECT 22U M 250V
R1207	401 105 0415	MT-GLAZE 100 JA 1/16W	C751	403 248 1608	ELECT 47U M 16V
R1209	401 105 2112	MT-GLAZE 18K JA 1/16W	DIODE		
R1210	401 105 2112	MT-GLAZE 18K JA 1/16W	D701	407 012 4416	DIODE 1SS133-T-77
R1211	401 105 0514	MT-GLAZE 1K JA 1/16W	D711	407 012 4416	DIODE 1SS133-T-77
R1212	401 105 0415	MT-GLAZE 100 JA 1/16W	D721	407 012 4416	DIODE 1SS133-T-77
R1215	401 105 0415	MT-GLAZE 100 JA 1/16W	D751	407 012 4416	DIODE 1SS133-T-77
R1216	401 105 5212	MT-GLAZE 470 JA 1/16W	INTERGRATED CIRCUIT		
R1217	401 105 5212	MT-GLAZE 470 JA 1/16W	IC701	409 468 8403	IC TDA6103Q/N3
R1218	401 105 1610	MT-GLAZE 15K JA 1/16W	IC701-1	610 283 8657	ASSY,CRT HEAT SINK C2HC
R1219	401 105 1016	MT-GLAZE 1.2K JA 1/16W	COIL		
R1220	401 105 1016	MT-GLAZE 1.2K JA 1/16W	L701	645 007 9856	PEAKING COIL 220UH K
R1221	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	L711	645 007 9856	PEAKING COIL 220UH K
R1222	401 105 0613	MT-GLAZE 10K JA 1/16W	L712	645 007 9856	PEAKING COIL 220UH K
R1224	401 105 1115	MT-GLAZE 12K JA 1/16W	TRANSISTOR		
R1225	401 105 0613	MT-GLAZE 10K JA 1/16W	Q701	405 041 6507	TR 2SC2621-D-RA
R1226	401 105 1115	MT-GLAZE 12K JA 1/16W	Q711	405 041 6507	TR 2SC2621-D-RA
R1227	401 105 3218	MT-GLAZE 270 JA 1/16W	Q721	405 041 6507	TR 2SC2621-D-RA
R1228	401 105 0514	MT-GLAZE 1K JA 1/16W	Q740	406 007 1901	TR JC556A
R1229	401 105 7414	MT-GLAZE 8.2K JA 1/16W	Q751	406 007 1901	TR JC556A
R1230	401 105 0415	MT-GLAZE 100 JA 1/16W	RESISTOR		
△ R1232	401 060 6405	OXIDE-MT 27 JA 1W	R702	401 025 7429	CARBON 220 JA 1/6W
R1235	401 105 1412	MT-GLAZE 150 JA 1/16W	△ R704	401 065 4604	OXIDE-MT 12K JA 2W
R1238	401 105 5212	MT-GLAZE 470 JA 1/16W	R705	401 009 6622	CARBON 3.3K JA 1/2W
R3451	401 105 0415	MT-GLAZE 100 JA 1/16W	R712	401 025 7429	CARBON 220 JA 1/6W
R3452	401 105 0415	MT-GLAZE 100 JA 1/16W	△ R714	401 065 4604	OXIDE-MT 12K JA 2W
R3453	401 105 0613	MT-GLAZE 10K JA 1/16W	R715	401 009 6622	CARBON 3.3K JA 1/2W
R3471	401 105 3218	MT-GLAZE 270 JA 1/16W	R722	401 025 7429	CARBON 220 JA 1/6W
R3473	401 105 5212	MT-GLAZE 470 JA 1/16W	△ R724	401 065 4604	OXIDE-MT 12K JA 2W
R3474	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R725	401 009 6622	CARBON 3.3K JA 1/2W
R3475	401 105 5212	MT-GLAZE 470 JA 1/16W	R741	401 024 9325	CARBON 1K2 JA 1/6W
R3476	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R742	401 027 2620	CARBON 5K6 JA 1/6W
R3479	401 105 4116	MT-GLAZE 3.3K JA 1/16W	R744	401 027 5225	CARBON 680 JA 1/6W
R3480	401 105 4116	MT-GLAZE 3.3K JA 1/16W	R752	401 024 7430	CARBON 10K JA 1/6W
R3485	401 105 5212	MT-GLAZE 470 JA 1/16W	R753	401 024 7430	CARBON 10K JA 1/6W
R3486	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R756	401 026 9620	CARBON 470 JA 1/6W
R3487	401 105 5212	MT-GLAZE 470 JA 1/16W	R758	401 026 9620	CARBON 470 JA 1/6W
R3488	401 105 2815	MT-GLAZE 2.2K JA 1/16W	R759	401 026 9620	CARBON 470 JA 1/6W
MISCELLANEOUS			MISCELLANEOUS		
J1205	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	K7D1	645 008 4058	TERMINAL PLUG
J1215	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	K7M	645 008 4058	TERMINAL PLUG
J1223	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	K7P	645 008 7288	HOUSING PLUG 5P
J1224	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	K7Q	645 008 7264	HOUSING PLUG 3P
J3450	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	△ K701	645 031 7699	CRT SKT. HPS-014103
J3451	401 105 7919	MT-GLAZE 0.000 ZA 1/16W	PB701	610 285 1540	PWB,CRT C2WA X12
J3452	401 105 7919	MT-GLAZE 0.000 ZA 1/16W			
J3457	401 105 7919	MT-GLAZE 0.000 ZA 1/16W			
J3458	401 105 7919	MT-GLAZE 0.000 ZA 1/16W			
J3459	401 105 7919	MT-GLAZE 0.000 ZA 1/16W			
J3460	401 105 7919	MT-GLAZE 0.000 ZA 1/16W			
J3461	401 105 7919	MT-GLAZE 0.000 ZA 1/16W			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
OUT OF CIRCUIT-013C2WTV					
COIL					
△ L901	645 037 4210	COIL, DEGAUSSING 28-TOTOKU			
TRANSISTOR					
△ Q901	414 011 5501	A66EHJ13X38 50HZ, 52%CHINA			
MISCELLANEOUS					
SP901	610 232 3986	SPEAKER			
SP902	610 232 3986	SPEAKER			
△ W901	645 012 7632	EURO PLUG +2P HOUSE @ 2.1			
W902	610 286 1594	GND, WIRE CONEC. C2WAV			
All information in this manual is correct at the start of production. Sanyo reserves the right to modify components and procedures in order to comply with their continuous improvement policy.					



Sanyo Industries (UK) Ltd
Printed in UK



COLOUR TELEVISION

CHASSIS SERIES **EB6**

MODEL NUMBER **CE28B5-C**

SERVICE REF.NO. **CE28B5-C-00**

The service Precaution:
The area enclosed by this line () is directly connected with AC mains voltage. When servicing the area, connect an isolating transformer between TV receiver and AC line to eliminate hazard of electric shock.

Product safety notice:
Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a mark in this circuit diagram show components whose values have special significance to product safety. It is particularly recommended that only parts specified on the part service manual be used for components replacement pointed out by the mark.

Circuit diagram notes :
1. All resistance values are in ohms, K=1,000, M=1,000,000.
2. All resistance rated wattages are 1/6W unless otherwise noted.
3. Excepting electrolytic capacitors, all capacitance values of less than 1 are expressed in μF and more than 1 are pF.
4. All capacitance rated voltages are 50V unless otherwise noted.
5. All inductance values are in μH .
6. Voltage readings taken a digital voltmeter are from point indicated chassis ground. Voltage readings taken by using a colour bar signal are with all controls at normal position. Some voltages may vary with signal strength.
7. Waveforms were taken with colour bar and controls adjusted for normal picture. Waveforms were taken by using a wide band oscilloscope and a low capacity probe.

8. This circuit diagram covers a basic or representative chassis only. There may be some components or partial circuit differences between the actual chassis and the circuit diagram.
9. Diode 1S1555 may be replaced with 1S2473, 1S2076 or DS472 unless otherwise noted.
 Transistor 2SC536(Q,R,S), 2SC1740(Q,R,S), 2SC945A(Q,R,P) or 2SC1815(G,O,Y) unless otherwise noted.
 Transistor 2SA608(E,F) may be replaced with 2SA933(Q,R), 2SA564(QA,RA), or 2SA1015(O,Y) unless otherwise noted.

Expression of capacitance and resistance in circuit diagram.

Capacitance (Example)
1000 C M 2000 D

Characteristic
Capacitance value (220pF)
Tolerance ($\pm 20\%$)
Kind (Ceramic)
Rated voltage (1,000V)

Resistance (Example)
1/2 N J 1.2

Resistance value (1.2 Ω)
Tolerance ($\pm 5\%$)
Kind (M.carbon)
Rated wattage (1/2W)

$J = \pm 5\%$
 $K = \pm 10\%$
 $M = \pm 20\%$

T, A, U, D : Electrolytic
C, K, B : Ceramic
F : Mylar film
M, N : Polypropylene
Z : Metallized paper

D : Carbon
N : Metallized carbon
S : Oxide metallized
W : Wire winding
C : Solid

Terminal guide

C : Collector
B : Base
E : Emitter

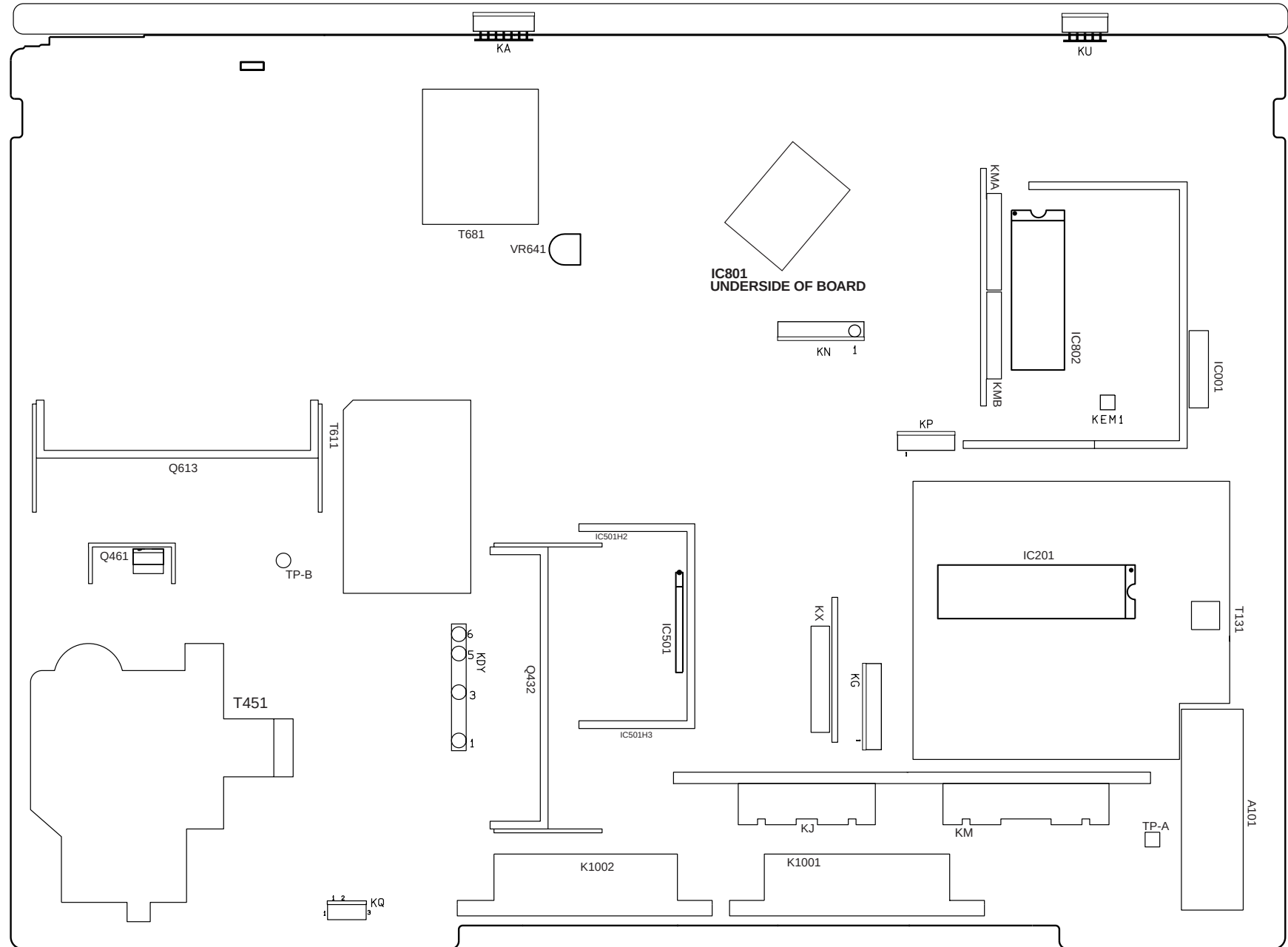
Chip Components

Transistor
Diode
Resistor $12 \times 10^3 \times 12\%$

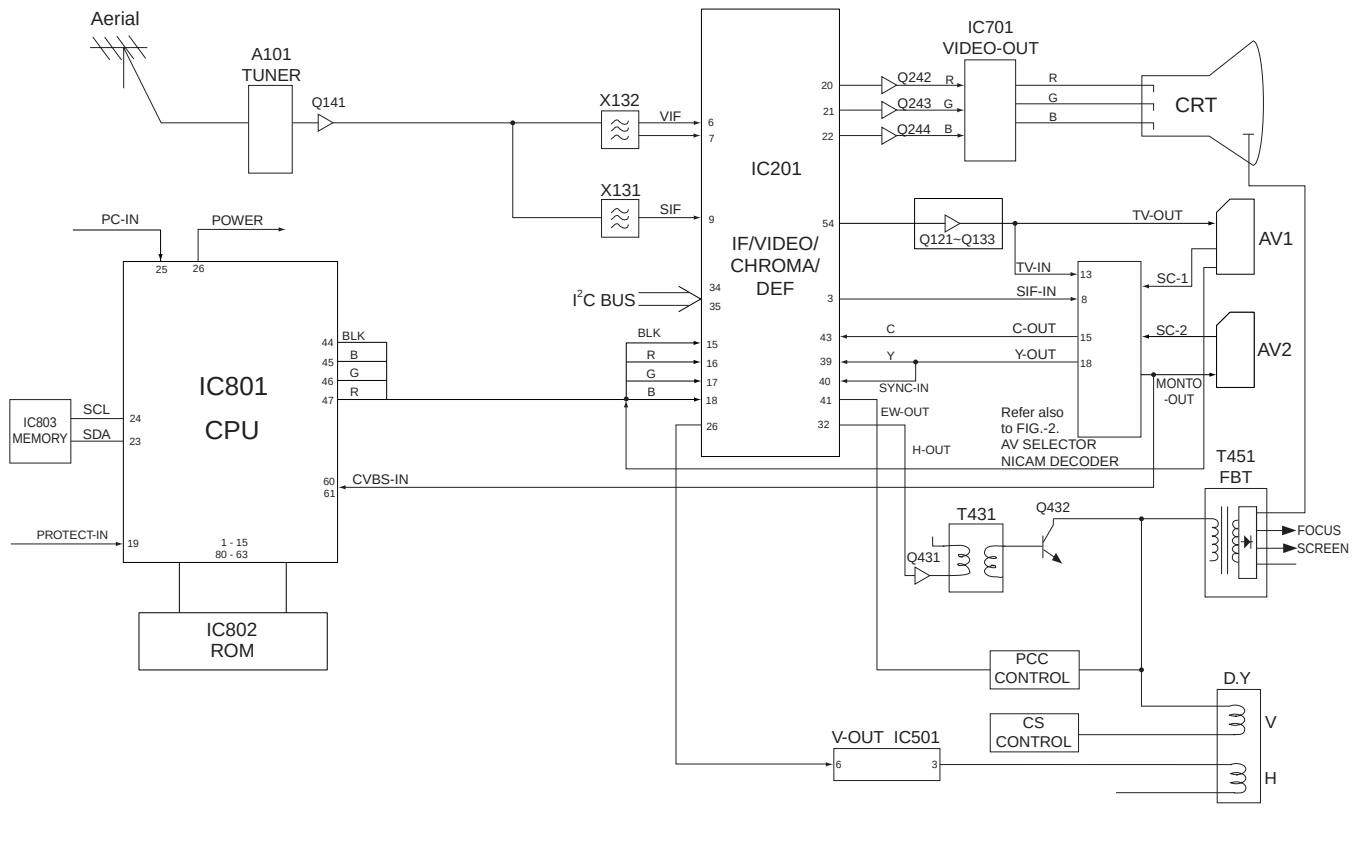
Chip Components

Transistor
Diode
Resistor $12 \times 10^3 \times 12\%$

MAIN BOARD



BLOCK DIAGRAM (OUTLINE)



BLOCK DIAGRAM (AV SELECTOR/ NICAM DECODER)

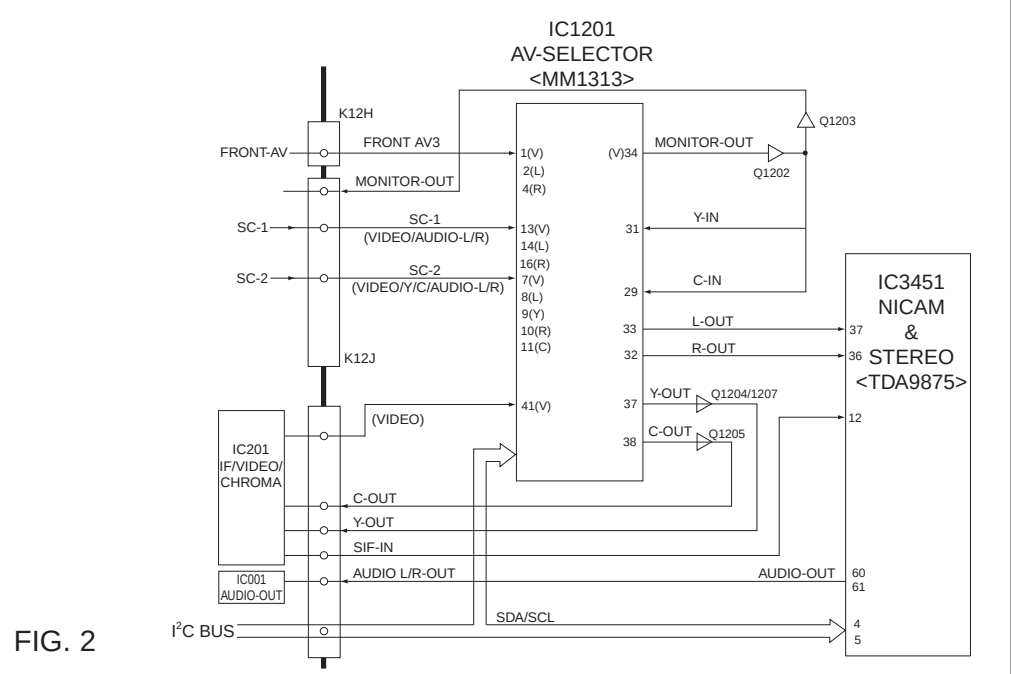


FIG. 2

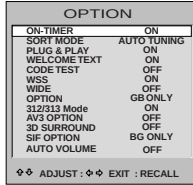
OPTION SETTING

[After replacing the Memory IC (IC803)]

The memory IC, IC803, stores the option data of TV set and service adjustments data for each circuit, therefore, when the memory IC is replaced, it should be performed following setting and SERVICE ADJUSTMENT* on next page.

To enter to the Option Mode

- * Press and hold the **FOK** button on the remote control and **PW** button on the front panel of the TV. The option window will appear on the screen. Enter the settings as shown below for the correct SERVICE REF. NO.



SERVICE REF. NO. CE2885-C-00
CE2885-C-00
CE2185-C-00

To set the option mode

- * Highlight the desired option item by using the **PA** or **PW** button.
- * To switch the option mode, use the **Volume - (LEFT)** or **Volume + (RIGHT)** button.
- * The data which is set in the option mode is stored into the memory IC automatically.

Following table shows the available option items and default setting mode.

Option Mode	Description & Note
ON-TIMER	ON or OFF On-timer available, default OFF
SORT MODE	AUTO TUNE/SORT or AUTO TUNING Tuning mode, default AUTO TUNING
PLUG & PLAY	ON or OFF Plug & Play mode, default ON
WELCOME TEXT	ON or OFF Display message when first set up, default ON
CODE TEST	OFF or ON For factory use, default OFF
WSS	ON or OFF Wide Screen Signaling, available, default ON
WIDE	ON or OFF Wide mode, default ON
OPTION	4 LANGUAGE ALL LANGUAGE OR GB ONLY Destination option, default 4 LANGUAGE
312/313 Mode	ON or OFF Teletext mode, default OFF
AV3 OPTION	ON or OFF Front AV disable, default ON
SIF OPTION	ON or OFF Television system, default BG 1 LUL

Exit from the Service Mode

- * Press the **RECALL** button.

SERVICE ADJUSTMENTS

Note: Some items of the service adjustments for this chassis are controlled by the CPU, IC801, and the adjustments are carried out by using the RC handset.

[After replacing the Memory IC (IC803)]

The memory IC, IC803, stores the service adjustments data for each circuit, therefore, when the memory IC is replaced, it should be performed "OPTION SETTINGS" on previous page and the following adjustments, refer to further adjustment on page 14.

ADJUSTABLE SERVICE ADJUSTMENT

REGULAR

Item No.	OSD	Description
1	AGC	AGC Adjustment
2	CUT	Cut-Off Drive Adjustment
3	GRY	G-Drive Adjustment
4	GRY	B-Drive Adjustment
7	HBP	H-Blanking Phase Adjustment
8	OSD	OSD Positioning Adjustment

WIDE

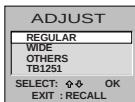
Item No.	OSD	Description
1	P V-P	Vertical Centre Adjustment
2	P H-P	Horizontal Centre Adjustment
5	P V-S	Vertical Size Adjustment
6	P H-S	Horizontal Size Adjustment
7	P PCC	Pcc Adjustment
8	P TRP	Trapezoid Distortion Adjustment
10	P CNR	Corner Adjustment

IMPORTANT NOTICE

Do not attempt to adjust service adjustments not listed on the above otherwise it may cause loss of performance and product safety.

To enter to the Service Mode

- * Press and hold the **GREEN** button on the remote control and then press the **PW** button inside of the door. The adjustment window will appear on the screen.



To select the mode and service item and change data value

- * Highlight the desired adjustment mode by using the **PA** or **PW** button and then press the **FIOK** button.
- * To select the adjustment item, use the **PA** or **PW** button.
- * To change the service data, use the **Volume - (LEFT)** or **Volume + (RIGHT)** button.
- * The data which is set in the service mode is stored into the memory IC automatically.

REGULAR mode		WIDE mode	
REGULAR	38	WIDE	3F
Adjustment No. and Item name	Adjustment Data	Adjustment No. and Item name	Adjustment Data

Exit from the Service Mode

- * Press the **RECALL** button or turn off the TV set by using the Mains switch.

INITIALISATION OF MEMORY IC

To initialise the memory IC (IC803), press and hold the **NORMAL** button on te remote control and then press the **PA** button on the front panel of the TV set, and then turn the Mains switch Off and On. Now the initialisation is completed. When initialised the memory IC, all of the setting data (option data and service adjustment data) stored in the IC are reset to the default value. So it is necessary to set the option settings and readjust the service adjustments listed on left page.

ADJUSTMENTS

IMPORTANT NOTICE

Do not attempt to adjust the following service adjustments except when adjustments are required in servicing otherwise it may cause loss of performance and product safety.

+ B VOLTAGE ADJUSTMENT

1. Receive white raster pattern.
2. Set controls to normal.
3. Connect digital voltmeter to test point TP-B and GND.
4. Adjust voltage to 150 $\pm$ 5V using VR641 (21" model).
5. Adjust voltage to 150 $\pm$ 5V using VR641 (25" model).
6. Adjust voltage to 150 $\pm$ 5V using VR641 (28" model).

AGC ADJUSTMENT

1. Input and tune a VHF RF signal which has the strongest signal strength.
2. Connect digital voltmeter to test point TP-A and GND.
3. Enter to the service mode and select mode "REGU-LAR", and select item no.1 "REGULAR 1, AGC".
5. Press the **LEVEL+** or **LEVEL -** button to adjust voltage to be 3.2VDC.

FOCUS ADJUSTMENT

By using FOCUS VR, adjust focus control for well defined scanning lines.

GREY SCALE ADJUSTMENT

1. Receive black & white pattern.
2. Enter to the service mode and select mode "REGU-LAR", and select item no. 2 "REGULAR 2, CUT". The horizontal line will appear on the screen.
3. Set the **SCREEN VR** for one colour to be just visible.
4. Using the numeric buttons shown set each colour to minimum by decreasing to the point where any further decrease resets the adjustment to maximum value.

BIAS ADJUSTMENT

5. By using the buttons 1, 2, 4, 5, 7, 8 on the remote control, adjust the line to be white.

The key allocation is as follows;

CORNER ADJUSTMENT

1. Tune the receiver to a cross hatch pattern.
2. Enter to the service mode and select mode "WIDE", and select item no. 10 "WIDE 10, P CNR".
3. Press the **LEVEL+** or **LEVEL -** button to correct the distortion of the vertical line around the corners.

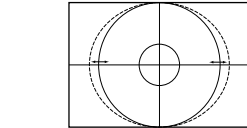
HORIZONTAL ADJUSTMENT

HORIZONTAL CENTRING ADJUSTMENT

1. Tune the receiver to a circular pattern.
2. Enter to the service mode and select mode "WIDE", and select item no. 2 "WIDE 2, P H-P".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the horizontal centre.

HORIZONTAL WIDTH ADJUSTMENT

1. Tune the receiver to a circular pattern.
2. Enter to the service mode and select mode "WIDE", and select item 6 "WIDE 6, P H-W".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the horizontal width.



HIGH-VOLTAGE CONFIRMATION

1. Tune the receiver to a circular pattern.
2. Set controls to normal.
3. Connect high-voltage meter to the anode of CRT and GND.
4. Confirm that voltage is 38.0kV for 21" model. Confirm that voltage is 29.0kV for 25" model. Confirm that voltage is 29.0kV for 28" model.

VERTICAL ADJUSTMENT

VERTICAL CENTRING ADJUSTMENT

1. Tune the receiver to a circular pattern.
2. Enter to the service mode and select mode "WIDE", and select item no. 1 "WIDE 1, P V-P".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the vertical centre.

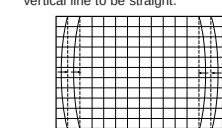
Button No.	Operation
1	Increase Red
2	Decrease Red
4	Increase Green
5	Decrease Green
7	Increase Blue
8	Decrease Blue

DRIVE ADJUSTMENT

6. Select item no.3 "REGULAR 3, GRY" (G-Drive) or 4 "REGULAR 4, GRY" (B-Drive) and adjust both initially to 3F.
7. Change data value of each item by using **LEVEL +** or **LEVEL -** button to obtain the proper white balance.

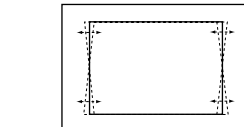
PCC ADJUSTMENT

1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 7 "WIDE 7, P PCC".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the vertical line to be straight.



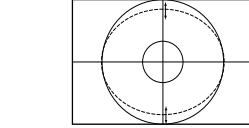
TRAPEZOID ADJUSTMENT

1. Receive cross hatch pattern and set screen mode to "FULL".
2. Enter to the service mode and select mode "WIDE", and select item no. 8 "WIDE 8, P TRP".
3. Press the **LEVEL+** or **LEVEL -** button to correct the trapezoid distortion of the vertical line.



VERTICAL HEIGHT ADJUSTMENT

1. Tune the receiver to a circular pattern.
2. Enter to the service mode and select mode "WIDE", and select item no. 5 "WIDE 5, P V-S".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the vertical height.



H-BLANK ADJUSTMENT

1. Tune the receiver to a circular pattern.
2. Enter to the service mode and select mode "REGU-LAR", and select item no. 8 "REGULAR 8, HBP".
3. Press the **LEVEL+** or **LEVEL -** button to adjust the centre of picture image to be screen centre.

